Schooling disrupted – schooling rethought

Washington

Andreas Schleicher
By the end of June, schools across the OECD had experienced some form of closure lasting an average of 14 weeks.
• 1.5bn students (and their parents) locked out from their schools
• Remote learning has become the lifeline for learning but doesn’t address the social functions of schools
• Access, use and quality of online resources amplify inequality
• Accreditation at stake
• Huge needs for just-in-time professional development
• Re-prioritisation of curricula to embrace wider range of cognitive, social and emotional skills
• But lots of highly innovative learning environments emerging
# Lost individual income due to Corona-induced learning loss

<table>
<thead>
<tr>
<th>Learning loss (school-year equivalents)</th>
<th>Pooled (0.232)</th>
<th>US (0.274)</th>
<th>Lowest [Greece] (0.137)</th>
<th>Highest [Singapore] (0.501)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.25</td>
<td>1.9%</td>
<td>2.3%</td>
<td>1.1%</td>
<td>4.2%</td>
</tr>
<tr>
<td>0.33</td>
<td>2.6%</td>
<td>3.0%</td>
<td>1.5%</td>
<td>5.6%</td>
</tr>
<tr>
<td>0.50</td>
<td>3.9%</td>
<td>4.6%</td>
<td>2.3%</td>
<td>8.4%</td>
</tr>
<tr>
<td>0.67</td>
<td>5.2%</td>
<td>6.1%</td>
<td>3.0%</td>
<td>11.1%</td>
</tr>
<tr>
<td>1.00</td>
<td>7.7%</td>
<td>9.1%</td>
<td>4.6%</td>
<td>16.7%</td>
</tr>
</tbody>
</table>

**Note:** The values in parentheses in the row headers are the income return per standard deviation of individual test scores.

Present value of lost GDP due to Corona-induced learning loss (average 1/3 school year lost)

Source: Hanushek and Woessmann (OECD, 2020)
PISA 2018: Learning time ≠ learning outcomes

- Intended learning time at school (hours)
- Study time after school (hours)
- Score points in reading per hour of total learning time

Learning out of school

Time in school

Productivity

Score points in reading per hour of learning time
Instructional resources used (Averages across 36 countries, May 2020)

- Existing online instructional resources: 90%
- Online instruction delivered by the same teachers of the students learning: 80%
- Instructional packages (textbooks, worksheets, printouts): 70%
- Educational television: 60%
- Radio education: 30%
- Online instruction provided by private tutors: 20%
Working together
Evaluation of contingency strategies
(Averages across 36 countries, May 2020)

- Everybody did all they could to help
- It was designed in a collaborative manner including teachers
- It was well planned
- It was well executed
- Communications were well managed
- There was strong collaboration between public and private sectors
- It was designed in a top down fashion by the government
- It was designed in a collaborative manner including parents
- It was designed in a collaborative manner including the community
- There were conflicts with teachers
- There were conflicts with parents
- There were conflicts between schools and the government
- It was fairly chaotic

Completely agree | Agree
--- | ---
90% | 80%
70% | 70%
60% | 60%
50% | 50%
40% | 40%
30% | 30%
20% | 20%
10% | 10%
0% | 0%
## Focus of contingency strategies (Averages across 36 countries, May 2020)

<table>
<thead>
<tr>
<th>Focus of Contingency Strategies</th>
<th>To a great extent</th>
<th>To some extent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ensure the continuity of the academic learning of students</td>
<td></td>
<td></td>
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<tr>
<td>Ensure continuity/integrity of the assessment of student learning</td>
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<tr>
<td>Provide professional support, advice to teachers</td>
<td></td>
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<tr>
<td>Ensure social development of students</td>
<td></td>
<td></td>
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<tr>
<td>Ensure support for parents and caregivers to support student</td>
<td></td>
<td></td>
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<tr>
<td>Support education of disadvantaged students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ensure well-being of students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ensure well-being of teachers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revise graduation/grade transition policy to allow student</td>
<td></td>
<td></td>
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<tr>
<td>Ensure provision of other social services to students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ensure medical attention to teachers affected by Covid-19</td>
<td></td>
<td></td>
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<tr>
<td>Support students at risk of violence at home</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ensure medical attention of students affected by Covid-19</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 10**
Re-opening schools
Strategies for the new normal
Evidence from previous epidemics suggests school-closure can prevent < 15% of infections.
### Health measures included in the reopening plans

(Averages across 36 countries, May 2020)

<table>
<thead>
<tr>
<th>Measure</th>
<th>Extremely likely</th>
<th>Somewhat likely</th>
<th>Neither likely nor unlikely</th>
<th>Somewhat unlikely</th>
<th>Extremely unlikely</th>
<th>No answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training students, teachers and staff on basic hygiene and barrier gestures</td>
<td></td>
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<td></td>
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<td></td>
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<tr>
<td>Mandatory application of social distancing protocols</td>
<td></td>
<td></td>
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<tr>
<td>Mandatory use of antiseptic gel by students, teachers and school staff before entering a classroom or the canteen</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Mandatory use of masks for all students, teachers and school staff</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mandatory use of antiseptic wipes for students and teachers to clean their desks every day</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Closure of all common areas in school</td>
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<tr>
<td>Installation of additional open-air handwashing facilities outside the school building</td>
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<tr>
<td>Mandatory use of gloves for all students, teachers and school staff</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 22
The affected students or teachers will be required to quarantine.

All students and staff will be tested.

The classroom will be closed.

The school will be closed.
Plans to reopen to address well-being of students
(Averages across 36 countries, May 2020)

Table 19

<table>
<thead>
<tr>
<th>Special support measures for students from socioeconomically disadvantaged backgrounds</th>
<th>Counselling for students</th>
<th>Special support measures for students who may be victims of violence at home</th>
<th>Special support measures for students in psychological distress</th>
<th>Assessment of students’ mental health</th>
<th>Hiring additional school doctors, nurses, psychologists, specialized teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td></td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
</tbody>
</table>

(Averages across 36 countries, May 2020)
Technology can amplify and scale innovative teaching.
What strategies will be used for school reopening?
(Averages across 36 countries, May 2020)

Table 17

Progressive return of students (e.g. by age cohorts) 70%
Classroom based teaching and learning in shifts 60%
Hybrid model of distance and classroom based teaching and learning 50%
Return to normal scheduling and student attendance 30%
Student and teacher returns contingent upon results of antibody testing 10%
Classroom teaching conducted in schools’ outdoor spaces 5%
Students’ online learning environment at home

- A link to the Internet at home
- A quiet place to study at home
- A computer for school work at home

Advantaged schools vs. Disadvantaged schools

OECD average

Fig V.9.1
School computers per student

Based on principals’ reports
Percentage of students in schools whose principal agreed or strongly agreed that the school’s Internet bandwidth or speed is sufficient

- **Average**
- **Disadvantaged schools**
- **Advantaged schools**
Teachers have sufficient time to prepare lessons integrating digital devices

Percentage of students in schools whose principal agreed or strongly agreed that teachers have sufficient time to prepare lessons integrating digital devices

Average
Disadvantaged schools
Advantaged schools
Teachers have the necessary technical and pedagogical skills to integrate digital devices in instruction

Percentage of students in schools whose principal agreed or strongly agreed that teachers have the necessary technical and pedagogical skills to integrate digital devices in instruction

Average
Disadvantaged schools
Advantaged schools

Fig A9
Teachers do not rely heavily on distance learning
Percentage of lower secondary teachers who participated in selected types of professional development (2018)
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.
EdTech expenditure

Digital expenditures are forecast to grow fast from USD 152 B to 342 B by 2025

USD Billions

<table>
<thead>
<tr>
<th>Year</th>
<th>Global Education Technology Expenditures - Left Axis</th>
<th>Share of Digital Expenditures - Right Axis</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>152</td>
<td></td>
</tr>
<tr>
<td>2025</td>
<td>342</td>
<td>4.4</td>
</tr>
</tbody>
</table>

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 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)
E-learning readiness in reopening plans
(Averages across 36 countries, May 2020)

Deliver targeted training for teachers on effective e-learning and assessment
Secure internet connectivity for all teachers and students
Invest in updating or creating effective e-learning platforms and content
Ensure that all teachers and students are equipped with suitable devices
Develop alternative modes for students without internet connectivity (e.g. radio, TV)
The future will continue to surprise us!

Some events are foreseeable and have a small impact...

Others can be highly disruptive!
Four OECD Scenarios for the Future of Schooling

1. SCHOOLING EXTENDED
2. EDUCATION OUTSOURCED
3. SCHOOLS AS LEARNING HUBS
4. LEARN-AS-YOU-GO
Scenario 1: Schooling Extended

Participation in formal education continues to expand. International collaboration and technological advances support more individualised learning. The structures and processes of schooling remain.

Educational monopolies remain: Schools are key actors in socialisation, qualification, care and credentialing.

International collaboration and digital technologies power more personalised teaching and learning practices.

Distinct teacher corps remain, although with new divisions of tasks and greater economies of scale.
Scenario 1: **Schooling Extended**

- Innovating large, bureaucratic schooling systems may require a high degree of consensus and communication among various stakeholders. Can such systems be agile and adapt quickly when needed?
- What would the effects of massive digitalisation of schools be in terms of deployment and distribution of human resources? On teachers’ professional judgement and accountability?
Scenario 2: Education Outsourced

Traditional schooling systems break down as society becomes more directly involved in educating its citizens. Learning takes place through more diverse, privatised and flexible arrangements, with digital technology a key driver.

- **Goals and functions**
- **Governance and geopolitics**
- **Organisation and structures**
- **The teaching workforce**

Fragmentation of demand with self-reliant "clients" looking for flexible services.

Schooling systems as players in a wider (local, national, global) education market. Diversification of structures: multiple organisational forms available to individuals.

Diversity of instructional roles and teaching status operating within and outside of schools.
Scenario 2: Education Outsourced

- How will access to infinite information and training options change the nature of teaching and the role of teachers?
- Remote work and blended learning may drastically blur distinctions between home and school, time for study/work and time for leisure. Can play be a required part of formal education? Should formal education include instruction on leisure?
Schools remain, but diversity and experimentation have become the norm. Opening the “school walls” connects schools to their communities, favouring ever-changing forms of learning, civic engagement and social innovation.

- **Goals and functions**: Strong focus on local decisions; self-organising units in diverse partnerships. Schools as hubs function to organise multiple configurations of local-global resources.
- **Governance and geopolitics**: Flexible schooling arrangements permit greater personalisation and community involvement.
- **Organisation and structures**: Professional teachers as nodes of wider networks of flexible expertise.
- **The teaching workforce**:
Who decides?

Percentage of decisions taken at each level of government in public lower secondary education (2017)

- School
- Local
- Regional or Sub-regional
- Central or State
- Multiple levels

Countries included:
- Netherlands
- Czech Republic
- England (UK)
- Latvia
- Iceland
- Estonia
- Australia
- New Zealand
- Slovenia
- Scotland (UK)
- Chile
- Austria
- Ireland
- Slovak Republic
- Lithuania
- EU23 average
- Sweden
- OECD average
- Italy
- Hungary
- Denmark
- French comm. (Belgium)
- Russian Federation
- Japan
- Israel
- Germany
- Luxembourg
- Mexico
- United States
- Canada
- Korea
- Portugal
- Norway
- France
- Spain
- Switzerland
- Greece
- Turkey
- Finland
Correlations between the responsibilities for school governance and learning outcomes

Source: OECD, PISA 2015 Database.
Scenario 3: Schools as Learning Hubs

- Autonomy and community involvement are key to enhancing teaching and learning. But how can schools and teachers meet common system goals when their circumstances and capacity differ greatly from one another?

- Should schools more actively promote intergenerational exchange as a way to promote learning and social cohesion (e.g. via multigrade activities and mentorship)? Could this also include adults, young and older?
Scenario 4: Learn-as-you-go

Education takes place everywhere, anytime. Distinctions between formal and informal learning are no longer valid as society turns itself entirely to the power of the machine.

Goals and functions
- Traditional goals and functions of schooling are overwritten by technology. Dismantling of schooling as a social institution.

Governance and geopolitics
- Open market of "prosumers" with a central role for communities of practice (local, national, global).

Organisation and structures
- (Global) governance of data and digital technologies becomes key.

The teaching workforce
-
Scenario 4: Learn-as-you-go

- What does more personalised learning through technology entail for student experiences? Are learning personalisation and individualisation synonyms?
- As digital infrastructure replace physical and human schooling resources, who is in charge of deciding who learns what and how? How do the results of technology-led personalisation compare to more traditional forms of teacher-led personalisation?
Grounding the scenarios

Goals and functions
- Collective vs. Individual
- Formal vs. Informal
- System-wide vs. Fragmented

Organisation and structures
- Standardised vs. Personalised
- School-based vs. Dispersed
- Individual-focused vs. Collaborative

The teaching workforce
- Professional standards vs. Open access
- On-site vs. Ubiquitous
- Uniformity vs. Diversity

Governance and geopolitics
- Government vs. Society, Market
- Centralised vs. Distributed
- Top-down vs. Inclusive
Assessing risks, leveraging opportunities

Tensions and paradoxes require smart responses

MODERNISING  →  DISRUPTING
NEW GOALS  →  OLD STRUCTURES
GLOBAL  →  LOCAL
INNOVATION  →  RISK AVOIDANCE
POTENTIAL  →  REALITY
VIRTUAL  →  FACE-TO-FACE
LEARNING  →  EDUCATION

Trends Shaping Education 2020
Thank you

Find out more about our work [https://oecdedutoday.com/coronavirus/](https://oecdedutoday.com/coronavirus/)

- Schooling disrupted – schooling rethought - the complete report
- Country implementation examples
- Innovative education resources
- Country notes

Emails: Andreas.Schleicher@OECD.org
Twitter: SchleicherOECD
Wechat: AndreasSchleicher