Educating Learners for Their Future – Not Our Past
ALiTE International Webinar Series for Exemplary Scholarship, Hong Kong
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The future will continue to surprise us!

- Natural disasters
- Energy cuts
- Pandemics
- Artificial Intelligence
- (cyber) war
- Economic shocks
- Internet disrupted
- Data breaches
- Climate change
- Ageing

Impact vs Uncertainty
Sustainability issues covered in the curriculum (PISA, OECD average)

Principals who reported that there is a formal curriculum for the following topics:

- Climate change and global warming: 90%
- Equality between men and women in different parts of the world: 80%
- International conflicts: 80%
- Causes of poverty: 90%
- Migration (movement of people): 80%
- Hunger or malnutrition in different parts of the world: 70%
- Global health (e.g. epidemics): 70%

Based on principals’ reports
Students’ agency regarding global issues (PISA, OECD average)

- "Looking after the global environment is important to me"
- "I think of myself as a citizen of the world"
- "When I see the poor conditions that some people in the world live…"
- "It is right to boycott companies that are known to provide poor…"
- "I can do something about the problems of the world"
- "I think my behaviour can impact people in other countries"

Percentage of students who agreed or strongly agreed with the following statements:

Fig VI.5.1a
To thrive in the VUCA world, students need to learn to navigate oneself towards the world of well-being - well-being of oneself, of others and of the planet.

It is about making your own decisions rather than having others decide for you; acting rather than to be acted upon; it’s about shaping your own future.

Student Agency:
- the belief that students have the will and the ability to positively influence their own lives and the world around them.
- the capacity to set a goal, reflect and act responsibly to effect change.
When fast gets really fast, being slow to adapt makes education really slow.

- **Industrial systems**
  - Routine cognitive skills
  - Standardisation and compliance
  - ‘Tayloristic’, industrial
  - Primarily to authorities

- **World class systems**
  - Curriculum, instruction and assessment
  - Complex ways of thinking and working
  - Student inclusion
  - Role of teachers
  - Work organisation
  - Accountability
  - Primarily to peers and stakeholders

Some students learn at high levels.

All students learn at high levels.
Reproducing knowledge
Creating knowledge
Think for yourself and work with others
Two effects of digitalisation

Tasks without use of ICT

Non routine tasks

Routine tasks

Tasks with use of ICT

Non routine tasks

Routine tasks
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
Many teenagers aspire to jobs that are at high risk of automation (PISA)
Digitalisation

Democratizing

Particularizing

Empowering

Concentrating

Homogenizing

Disempowering
Learning compass: Knowledge

- Disciplinary
- Interdisciplinary
- Epistemic
- Procedural
Learning compass: Skills

- Cognitive & meta-cognitive
- Social & emotional
- Physical & practical
Transformative competencies

- Creating new value
- Taking responsibility
- Reconciling tensions & dilemmas
**Growth mindset and reading performance**

Average reading score

OECD average

R² = 0.47

More students holding a growth mindset

Percentage of students who disagreed or strongly disagreed that their intelligence cannot change very much (%)

Similar relationship within most countries (Figure III.14.2)
Growth mindset and student attitudes

Change in the following indices when students disagreed or strongly disagreed that "your intelligence is something about you that you can’t change very much":

- Motivation to master tasks
- Self-efficacy
- Fear of failure
- Learning goals
- Value of school

All linear regression models account for students' and schools' socio-economic profile.
Some learn at high levels
All learn at high levels
Can the closest school be always the best school?

Variation in reading performance between and within schools

Fig II.4.1

Between-school variation
Within-school variation

Performance variation between schools
Performance variation within schools

Percentage of the total variation in performance across OECD countries
Few systems align resources with needs

Mean index difference between advantaged and disadvantaged schools

- **Index of shortage of education staff**
- **Index of shortage of educational material**

Based on principals’ reports

**Fig II.5.5**

Disadvantaged schools have **more resources** than advantaged schools

Disadvantaged schools have **fewer resources** than advantaged schools
Bureaucratic Look-up
Devolved Look-outward
Policy levers to teacher professionalism

**Autonomy:** Teachers’ decision-making power over their work (teaching content, course offerings, discipline practices)

**Knowledge base for teaching** (initial education and incentives for professional development)

**Peer networks:** Opportunities for exchange and support needed to maintain high standards of teaching (participation in induction, mentoring, networks, feedback from direct observations)
Teachers’ use of effective teaching practices and professional collaboration

OECD average-31

- Teach jointly as a team in the same class
- Observe other teachers’ classes and provide feedback
- Engage in joint activities across different classes
- Take part in collaborative professional learning

Less frequently

- Never
- Once a year or less
- 2-4 times a year
- 5-10 times a year
- 1-3 times a month
- Once a week or more

More frequently

Teachers’ use of cognitive activation practices (frequency)
Teachers’ job satisfaction and professional collaboration

OECD average-31

- Teach jointly as a team in the same class
- Observe other teachers’ classes and provide feedback
- Engage in joint activities across different classes
- Take part in collaborative professional learning

Less frequently
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More frequently

Teachers’ job satisfaction (level)
Prescription
Ownership of professional practice

Powerful learning environments are constantly creating synergies and finding new ways to enhance professional, social and cultural capital with others. They do that with families and communities, with higher education, with other schools and learning environments, and with businesses.
Correlations between the responsibilities for school governance and learning outcomes

Source: OECD, PISA 2015 Database.
The past was divided

Teachers and content divided by subjects and student destinations

Schools designed to keep students inside, and the rest of the world outside
The future is integrated

Integrated: Emphasising integration of subjects, integration of students and integration of learning contexts

Connected: with real-world contexts, and permeable to the rich resources in the community

Less subject-based, more project-based
Parents’ interest in their child’s activities at school and well-being (average)

Students who say their parents are interested in their school activities are...

- 2.5 times more likely to want top grades at school
- 1.9 times more likely to be very satisfied with life
- 1.4 times less likely to feel lonely at school
- Twice less likely to be not satisfied with life
Ideosyncratic policy
Alignment of policies
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.
Traditional schooling systems break down as society becomes more directly involved in educating its citizens. Learning takes place through more diverse, possibly privatised and flexible arrangements, with digital technology a key driver.

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.
The digital world has become the real world
Fig 3.7
Percentage of students who self activated the multiple-source by clicking hyperlink

Highly effective navigation
Actively explorative navigation
Limited navigation
No navigation
Column 2

Task-oriented navigation activities (PISA 2018)
Many online and distance learning and other innovative approaches such as AR, VR and AI were created, adapted and expanded.
Relationship between reading performance and the type of school activities done on digital devices (PISA 2018)

Score-point difference in reading between students who reported using digital devices for the following activities at school compared to those who reported that never did, OECD average

School activities done on digital devices are positively associated with reading performance

- Playing simulations at school
- Posting my work on the school’s website
- Doing homework on a school computer
- Downloading, uploading or browsing material from the school’s website (e.g. <intranet>)
- Using learning apps or learning websites
- Using school computers for group work and communication with other students
- Practicing and drilling, such as for foreign language learning or mathematics
- Using email at school
- <Chatting online> at school
- Browsing the Internet for schoolwork

School activities done on digital devices are negatively associated with reading performance

- Before accounting for students’ and schools' socio-economic profile
- After accounting for students’ and schools' socio-economic profile
Scenario 3: Schools as Learning Hubs

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**:
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.

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

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

(Global) governance of data and digital technologies becomes key.
Finding a balance that puts humans at the centre

Source: Illustration: Anne Horvers and Inge Molenaar; Source: Adaptive Learning Lab
Global education venture capital

Venture capitalists have invested USD 16B$ in 2020, up from USD 2B in 2014

Source: HolonIQ, January 2019
<table>
<thead>
<tr>
<th>OECD Scenarios for the Future of Schooling</th>
<th>Goals and functions</th>
<th>Organisation and structures</th>
<th>The teaching workforce</th>
<th>Governance and geopolitics</th>
<th>Challenges for public authorities</th>
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<tr>
<td><strong>Scenario 1</strong></td>
<td>Schools are key actors in socialisation, qualification, care and credentialing.</td>
<td>Educational monopolies retain all traditional functions of schooling systems.</td>
<td>Teachers in monopolies, with potential new economies of scale and division of tasks.</td>
<td>Strong role for traditional administration and emphasis on international collaboration.</td>
<td>Accommodating diversity and ensuring quality across a common system. Potential trade-off between consensus and innovation.</td>
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<td><strong>Schooling extended</strong></td>
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<td><strong>Scenario 2</strong></td>
<td>Fragmentation of demand with self-reliant “clients” looking for flexible services.</td>
<td>Diversification of structures: multiple organisational forms available to individuals.</td>
<td>Diversity of roles and status operating within and outside of schools.</td>
<td>Schooling systems as players in a wider (local, national, global) education market.</td>
<td>Supporting access and quality, fixing “market failures”. Competing with other providers and ensuring information flows.</td>
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<td><strong>Education outsourced</strong></td>
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<td><strong>Scenario 3</strong></td>
<td>Flexible schooling arrangements permit greater personalisation and community involvement.</td>
<td>Schools as hubs function to organise multiple configurations of local-global resources.</td>
<td>Professional teachers as nodes of wider networks of flexible expertise.</td>
<td>Strong focus on local decisions. Self-organising units in diverse partnerships.</td>
<td>Diverse interests and power dynamics; potential conflict between local and systemic goals. Large variation in local capacity.</td>
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<td><strong>Scenario 4</strong></td>
<td>Traditional goals and functions of schooling are overwritten by technology.</td>
<td>Dismantling of schooling as a social institution.</td>
<td>Open market of “prosumers” with a central role for communities of practice (local, national, global).</td>
<td>(Global) governance of data and digital technologies becomes key.</td>
<td>Potential for high interventionism (state, corporate) impacts democratic control and individual rights. Risk of high social fragmentation.</td>
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<td><strong>Learn-as-you-go</strong></td>
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Assessing risks, leveraging opportunities
Tensions and paradoxes require smart responses

- Modernising
- New Goals
- Global
- Innovation
- Potential
- Virtual
- Learning
- Disrupting
- Old Structures
- Local
- Risk Avoidance
- Reality
- Face-to-Face
- Education
Thank you

Find out more about our work at www.oecd.org/pisa

- PISA 2018: Insights and Implications
- PISA 2018 Results (Volume I): What Students Know and Can Do
- PISA 2018 Results (Volume II): Where All Students Can Succeed

Take the test: www.oecd.org/pisa/test

FAQs: www.oecd.org/pisa/pisafaq

PISA indicators on Education GPS: http://gpseducation.oecd.org

PISA Data Explorer: www.oecd.org/pisa/data

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