International Summit on the Teaching Profession

Framing the issues

Andreas Schleicher
Director for Education and Skills
OECD
The kind of things that are easy to teach are now easy to automate, digitize or outsource.
The Auto-auto

>1m km,

one minor accident,

occasional human intervention
Augmented Reality
A lot more to come

• 3D printing
• Synthetic biology
• Brain enhancements
• Nanomaterials
• Etc.
Everyone wants to live in your countries

Net migration (in millions of people) into regions, with countries grouped by income level and OECD members, 1960-2010

Education in the past
Education now
Dimensions of student learning

**Knowledge**
“What we know and understand”
- Interdisciplinarity
- Traditional (i.e., Mathematics)
- Modern (i.e., Entrepreneurship)
- Themes (i.e., Global Literacy)

**Skills**
“How we use what we know”
- Creativity
- Critical Thinking
- Communication
- Collaboration

**Character**
“How we behave and engage in the world”
- Mindfulness
- Curiosity
- Courage
- Resilience
- Ethics
- Leadership

**Meta-Learning**
“How we reflect and adapt”
- Metacognition
- Growth Mindset

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What knowledge, skills and character qualities do successful teachers require?
What knowledge, skills and character qualities do successful teachers require?

96% of teachers: My role as a teacher is to facilitate students own inquiry.
What knowledge, skills and character qualities do successful teachers require?

86%: Students learn best by finding solutions on their own.
What knowledge, skills and character qualities do successful teachers require?

74%: Thinking and reasoning is more important than curriculum content.
Prevalence of **memorisation**
rehearsal, routine exercises, drill and practice and/or repetition

-2.00
-1.50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00

Switzerland
Poland
Germany
Japan
Korea
France
Sweden
Shanghai-China
Canada
United Kingdom
Netherlands
Spain
Norway
United States
Singapore
Canada
Shanghai-China
Sweden
France
Korea
Japan
Germany
Poland
Switzerland

Prevalence of **elaboration**
reasoning, deep learning, intrinsic motivation, critical thinking, creativity, non-routine problems

High
Low

High
Low

High
Focus on word problems

Word problems - Formal math situated in a word problem, where it is *obvious* to students what mathematical knowledge and skills are needed.
Focus on conceptual understanding

Index of exposure to formal mathematics
Teaching strategies and learning outcomes

Index of student-oriented instruction
Index of teacher-directed instruction
Index of cognitive-activation instruction

Students below Level 2 have difficulties using basic algorithms, formulae, procedures or convention.

Students at Level 5 and 6 can develop and work with models for complex situations, and work strategically with advanced reasoning skills.

Students' proficiency level in PISA mathematics

<table>
<thead>
<tr>
<th>Level</th>
<th>Index of student-oriented instruction</th>
<th>Index of teacher-directed instruction</th>
<th>Index of cognitive-activation instruction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below Level 1</td>
<td>0.6</td>
<td>0.1</td>
<td>0.0</td>
</tr>
<tr>
<td>Level 1</td>
<td>0.5</td>
<td>0.2</td>
<td>0.0</td>
</tr>
<tr>
<td>Level 2</td>
<td>0.3</td>
<td>0.1</td>
<td>0.0</td>
</tr>
<tr>
<td>Level 3</td>
<td>0.2</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Level 4</td>
<td>0.1</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Level 5</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Level 6</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>
### Professional knowledge and expertise in teaching

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Behaviour</strong></td>
<td>• Effectiveness is evidenced by teacher behaviour and student learning outcomes</td>
</tr>
<tr>
<td><strong>Cognition</strong></td>
<td>• Teachers as thoughtful, sentient beings, characterised by intentions, strategies, decisions and reflections</td>
</tr>
<tr>
<td><strong>Content</strong></td>
<td>• The nature and adequacy of teacher knowledge of the substance of the curriculum being taught</td>
</tr>
<tr>
<td><strong>Character</strong></td>
<td>• The teachers serve as moral agents, deploying a moral-pedagogical craft</td>
</tr>
</tbody>
</table>

Teacher knowledge of, and sensitivity to, cultural, social and political contexts and the environments of their students.
The country where migrants go to school matters more than the country where they came from from.
The country where migrants go to school matters more than the country where they came from.

Immigrant students’ performance in mathematics, by country of origin and destination

First-generation immigrants’ score, after accounting for socio-economic factors:

- Netherlands
- United Arab Emirates
- Denmark
- Finland
- Qatar

Percentage of students with an immigrant background who reported they feel they belong at school:

- Finland
- Netherlands
- United Arab Emirates
- Qatar
- Denmark

Students from Arabic-speaking countries in:
A continuum of support

Make learning central, encourage engagement and responsibility

Be acutely sensitive to individual differences

Provide continual assessment with formative feedback

Be demanding for every student with a high level of cognitive activation

Ensure that students feel valued and included and learning is collaborative
What policies can help?
Implementing highly effective teacher policy and practice

- Improve the societal view of teaching as a profession
- Recruit top candidates into the profession
- Developing Teaching as a profession
- Retain and recognise effective teachers – path for growth
- Support teachers in continued development of practice
- Mean mathematics performance, by school location, after accounting for socio-economic status
- Implementing highly effective teacher policy and practice
Teachers’ skills

Numeracy test scores of tertiary graduates and teachers

Numeracy skills of middle half of college graduates
Teachers’ skills

Numeracy test scores of tertiary graduates and teachers

Japan
Finland
Flanders (Belgium)
Germany
Norway
Netherlands
Austria
Czech Republic
Sweden
Australia
France
Northern Ireland (UK)
Denmark
England/N. Ireland (UK)
England (UK)
Korea
Ireland
Canada
United States
Estonia
Poland
Spain

Numeracy skills of teachers
Professionalism is the level of autonomy and internal regulation exercised by members of an occupation in providing services to society.

External forces exerting pressure and influence inward on an occupation

Internal motivation and efforts of the members of the profession itself
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)
Mean mathematics performance, by school location, after accounting for socio-economic status

**Fig II.3**

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)
Teacher professionalism

- High Peer Networks/ Low Autonomy
- High Autonomy
- Knowledge Emphasis
- Balanced Domains/ High Professionalism
- Balanced Domains/ Low Professionalism
Mean mathematics performance, by school location, after accounting for socio-economic status

**TALIS Teacher professionalism index**

- **Networks**
- **Autonomy**
- **Knowledge**

Fig II.3.3

TALIS Teacher professionalism index

Networks | Autonomy | Knowledge
--- | --- | ---
Spain | | |
Japan | | |
France | | |
Brazil | | |
Finland | | |
Flanders | | |
Norway | | |
Australia | | |
Denmark | | |
Israel | | |
Korea | | |
United States | | |
Czech Republic | | |
Shanghai (China) | | |
Latvia | | |
Netherlands | | |
Poland | | |
England | | |
New Zealand | | |
Singapore | | |
Estonia | | |
TALIS Teacher professionalism and PISA learning

Mean mathematics performance, by school location, after accounting for socio-economic status.

Fig II.3: TALIS Teacher professionalism and PISA learning.
Teacher professionalism index and teacher outcomes

- Perceptions of teachers’ status
- Satisfaction with the profession
- Satisfaction with the work environment
- Teachers’ self-efficacy

Predicted percentile

Low professionalism
High professionalism
Mean mathematics performance, by school location, after accounting for socio-economic status

Fig II.3: TALIS Teacher professionalism index

Networks, Autonomy, Knowledge

Spain, Japan, France, Brazil, Flanders, Norway, Australia, Denmark, Israel, Korea, United States, Czech Republic, Shanghai (China), Latvia, Netherlands, Poland, England, New Zealand, Singapore, Estonia.
Not everywhere where induction programmes are accessible do teachers use them
Percentage of lower secondary teachers who report doing the following activities at least once per month.

- Discuss individual students
- Share resources
- Team conferences
- Collaborate for common standards
- Team teaching
- Collaborative PD
- Joint activities
- Classroom observations

Graph showing the comparison between the average and Shanghai (China) for each activity.
What principals say about involving teachers in decision making at school

Percentage of lower secondary principals who reported that they "often" or "very often" distributed leadership activities among other stakeholders in and around the school during the 12 months prior to the survey.

- This school provides students with opportunities to actively participate in school decisions
- This school provides parents or guardians with opportunities to actively participate in school decisions
- This school provides staff with opportunities to actively participate in school decisions

Cumulative percentage

<table>
<thead>
<tr>
<th>Country</th>
<th>Latvia</th>
<th>Shanghai (China)</th>
<th>Poland</th>
<th>Korea</th>
<th>Estonia</th>
<th>Norway</th>
<th>Brazil</th>
<th>Czech Republic</th>
<th>Alberta (Canada)</th>
<th>Spain</th>
<th>Australia</th>
<th>England (UK)</th>
<th>New Zealand</th>
<th>Denmark</th>
<th>Netherlands</th>
<th>Singapore</th>
<th>France</th>
<th>Sweden</th>
<th>Finland</th>
<th>Italy</th>
<th>Japan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cumulative</td>
<td>300</td>
<td>280</td>
<td>260</td>
<td>240</td>
<td>220</td>
<td>200</td>
<td>180</td>
<td>160</td>
<td>140</td>
<td>120</td>
<td>100</td>
<td>80</td>
<td>60</td>
<td>40</td>
<td>20</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Impact of professional development on teaching

Percentage of teachers who participated in professional development activities with the following content in the 12 months prior to the survey, and reported moderate or large positive impact of this activity on their teaching.

- Teaching in a multicultural/lingual setting
- School management and administration
- Approaches to developing cross-occupational competencies
- Student career guidance and counselling
- Teaching students with special needs
- Teaching cross-curricular skills
- New technologies in the workplace
- Approaches to individual learning
- Student behaviour and classroom management
- ICT skills for teaching
- Knowledge of the curriculum
- Student evaluation and assessment practices
- Pedagogical competencies in teaching subject field(s)
- Knowledge and understanding of subject field(s)

Percentage of teachers: [Graph showing percentage distribution]
What can governments do to implement policies more effectively?
## Successful reform delivery

<table>
<thead>
<tr>
<th>Shared vision</th>
<th>• Clear and consistent priorities (across governments and across time), ambition and urgency, and the capacity to learn rapidly.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance management</td>
<td>• Appropriate targets, real-time data, monitoring, incentives aligned to targets, accountability, and the capacity to intervene where necessary.</td>
</tr>
<tr>
<td>Frontline capacity</td>
<td>• Building professional capabilities, sharing best practice and innovation, flexible management, and frontline ethos aligned with system objectives.</td>
</tr>
<tr>
<td>Delivery architecture</td>
<td>• Strong leadership at every level, including teacher leadership, adequate process design and consistency of focus across agencies.</td>
</tr>
</tbody>
</table>
Successful reform implementation

- Strive for consensus about the aims without compromising the drive for improvement
- Careful piloting
- Engage stakeholders
  - Acknowledge divergent views and interests
  - Communicate, communicate, communicate
    - Feedback reduces the likelihood of strong opposition
    - Involvement of stakeholders cultivates a sense of joint ownership over policies, and hence helps build consensus over both the need and the relevance of reforms
  - Mechanisms of regular and institutionalised consultation contribute to the development of trust among parties, and help them reach consensus
    - Regular interactions raise awareness of the concerns of others, thus fostering a climate of compromise
- External pressures can be used to build a compelling case for change.
- Partnership with unions
- Careful timing
- Sustainable resources
Successful reform implementation

- Engage teachers not just in the implementation of reform but in their design
- Strive for consensus
- Partnership with unions
- Careful timing
- Sustainable resources
- Careful piloting

- Regular involvement by stakeholders in policy design helps to build capacity and shared ideas over time

Several countries have established teaching councils that provide teachers and other stakeholder groups with both a forum for policy development and, critically, a mechanism for profession-led standard setting and quality assurance in teacher education, teacher induction, teacher performance and career development.

Policy can encourage the formation of such communities.
Successful reform implementation

- Strive for consensus
- Engage stakeholders
- Careful piloting
- Careful timing
- Sustainable resources
- Partnership with unions

Use and evaluate pilot projects before full implementation

- Currently only one in ten educational reforms is evaluated
- Policy experimentation can help build consensus on implementation and can prove powerful in testing out policy initiatives and – by virtue of their temporary nature and limited scope – overcoming fears and resistance by specific groups of stakeholders.
Successful reform implementation

- Strive for consensus
- Engage stakeholders
- Careful piloting
- Careful timing
- Partnership with unions
- Sustainable resources
- Capacity
- Money

Back reforms with sustainable financing
All political players and stakeholders need to develop realistic expectations about the pace and nature of reforms to improve outcomes.

Certain reform measures are best introduced before others, particularly because of the substantial gap between the time at which the initial cost of reform is incurred, and the time when the intended benefits of reforms materialise.

Time is needed to learn about and understand impact, to build trust and develop capacity for the next stage.
Successful reform implementation

- Putting the teaching profession at the heart of education reform requires a fruitful dialogue between governments and unions.
- Teachers should not just be part of the implementation of reforms but also part of their design.
- Conflict isn’t best addressed by weak unions but by strong social partnership.
The old bureaucratic system

Some students learn at high levels

Routine cognitive skills

Standardisation and compliance

‘Tayloristic’, hierarchical

Primarily to authorities

Student inclusion

All students need to learn at high levels

Conceptual understanding, complex ways of thinking, ways of working

Curriculum, instruction and assessment

Teacher quality

High-level professional knowledge workers

Work organisation

Accountability

Primarily to peers and stakeholders

Flat, collegial

Accountability

Primarily to peers and stakeholders

Flat, collegial
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- All publications
- The complete micro-level database

Email: Andreas.Schleicher@OECD.org
Twitter: SchleicherEDU

and remember:
Without data, you are just another person with an opinion