

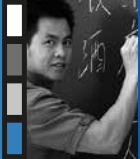
Chapter 1

EMERGING TRENDS, CHALLENGES AND OPPORTUNITIES

School systems need to adapt to economic and social changes to equip students with the relevant skills, knowledge, attitudes and values needed for success in future life and work. The expansion of technology, particularly the advent of digitalisation, presents new opportunities and challenges to prepare students to be lifelong and lifewide learners. Students now need to not only learn information but also understand how to use it, they need to interact successfully and respectfully with others, and take responsible actions and work together towards collective well-being. Equipping students with these skills requires innovation and a change in the approaches towards teaching and learning. Teachers are key actors in creating this context for learning and growth and can help establish effective learning environments. As we move into the future, new forms of educational provision will be needed that recognise the essential role that teachers play in transforming classrooms and to support them in their endeavour. This chapter explores the implications of the digital transformation on education systems and explains how teachers and policy makers can work together to harness its potential.

Note regarding Israel

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.



PREPARING STUDENTS FOR THEIR FUTURE, NOT OUR PAST

Digitalisation is connecting people, cities, countries and continents, bringing together a majority of the world's population in ways that vastly increase our individual and collective potential. But the same forces have also made the world more volatile, more complex and more uncertain. The rolling processes of automation and hollowing out jobs, particularly for routine tasks, have radically altered the nature of work and life. For those with the right knowledge, skills and character qualities, this has been liberating and exciting. But for those who are insufficiently prepared, it can mean vulnerable and insecure work and life without prospects. As our economies shift towards regionalised hubs of production, linked by global chains of supply and information, but concentrated in locations where comparative advantage can be built and renewed, the distribution of knowledge and wealth is key, and that is closely tied to the distribution of educational opportunity.

While digital technologies can have disruptive implications for our economic and social fabric, these are not predetermined. It is the nature of our collective and systemic responses to these disruptions that will determine the outcomes, the continuous interplay between the emerging technological frontier and the range of cultural, social, institutional and economic ingredients, including education, that we combine in response. That is why smart educational policies are so important and why their design and implementation hinge on support from many stakeholders.

Education will be a key differentiator for how the next decades will play out for individuals, nations and the planet. But education needs to prepare students for their future, not our past. When it was still possible to assume that what we learn in school would last for a lifetime, teaching content knowledge and routine cognitive skills were rightly at the centre of education. Today, when we can access content on line and routine cognitive skills are being digitised and outsourced, the focus must shift to enabling people to become lifelong and lifewide learners. Schools now need to prepare students for more rapid change than ever before, to learn for jobs that have not yet been created, to tackle societal challenges that we cannot yet imagine and to use technologies that have not yet been invented. And they need to prepare students for an interconnected world, in which students understand and appreciate different perspectives and world views, interact successfully and respectfully with others and take responsible action towards sustainability and collective well-being.

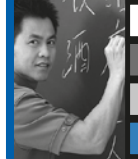
Lifelong learning is about constantly learning, unlearning and relearning when the contexts change, and it entails continuous processes of reflection, anticipation and action. Reflective practice is needed to take a critical stance when deciding, choosing and acting, by stepping back from what is known or assumed and by taking different perspectives. Anticipation mobilises knowledge and cognitive skills, such as analytical or critical thinking, to foresee what might be needed in the future or how actions taken today might have consequences for the future. And both reflective practice and anticipation contribute to the willingness to take responsible actions, in the belief that we all have the power to shape and change the course of events. This is how agency is built. Through anticipation, action and reflection, we assemble the competences that enable us to engage with the world – incisively, sensitively and responsibly. So modern schools need to help students to constantly evolve and grow and to find and adjust to their right place in a changing world.

These days, we no longer know how things will unfold. Frequently, we are surprised and need to learn from the extraordinary, and sometimes we make mistakes along the way. But it will often be our mistakes and failures, when properly understood, that create the context for learning and growth. By strengthening cognitive, emotional and social resilience, education can help people, organisations and systems to persist, perhaps even thrive, amid unforeseeable disruptions. Collectively, education can provide communities and institutions with the flexibility, intelligence and responsiveness they need to thrive in social and economic change.

Of course, state-of-the-art knowledge will always remain important. Innovative or creative people generally have specialised skills in a specific field of knowledge or practice. As much as learning-to-learn skills are important, we always learn by learning something. However, educational success is no longer mainly about reproducing content knowledge, but rather about extrapolating from what we know and applying that knowledge creatively in novel situations. And epistemic knowledge¹ (e.g. thinking like a scientist, philosopher or mathematician) is taking precedence over knowing specific formulas or equations.

The conventional approach in school is often to break problems down into manageable bits and pieces and then to teach students how to solve these bits and pieces. But modern societies create value by synthesising different fields of knowledge, making connections between ideas that previously seemed unrelated. That requires being familiar with and receptive to knowledge in other fields.

In today's schools, students typically learn individually, with their individual achievements certified at the end of the school year. But the more interdependent the world becomes, the more we need great collaborators and orchestrators. Innovation is now rarely the product of individuals working in isolation, but much more an outcome of how we mobilise,



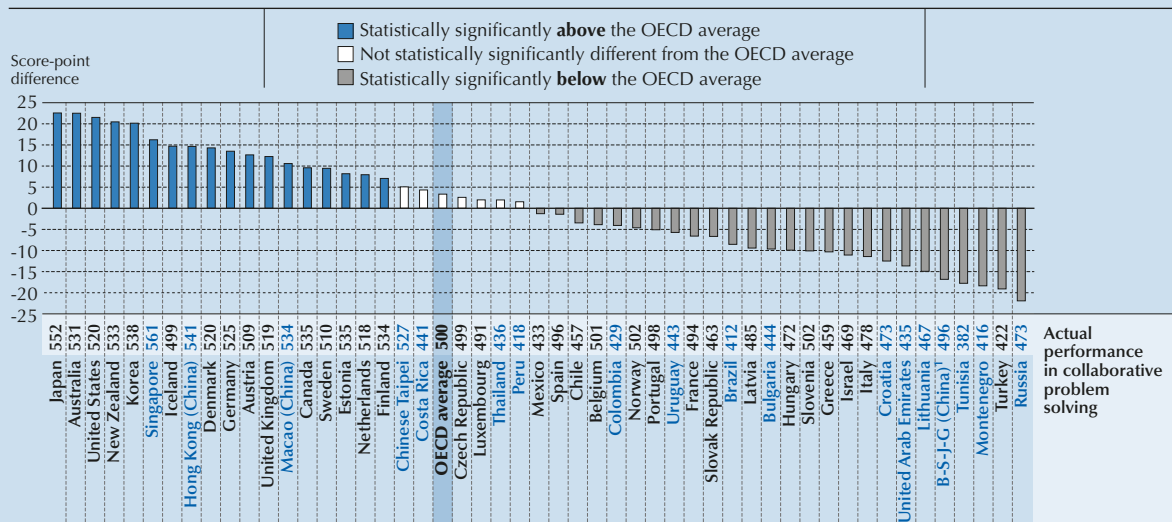
share and integrate knowledge. Also, the well-being of societies depends increasingly on their capacity to take collective action. Every day, we are seeing how the mere interaction of billions of individual humans, taking their own autonomous decisions, can combine to create systemic risks with potentially catastrophic consequences. Schools, therefore, need to become better at helping students to be aware of the pluralism of modern living and to join people from different backgrounds in life, work and citizenship. That means teaching and rewarding collaboration as well as individual academic achievement, enabling students to think for themselves and to act for and with others.

Collaborative skills have become a catchword in many education systems, but the reality is that students sit most of the time behind individual desks, with limited time for collaborative learning. In the Programme for International Student Assessment (PISA), that was also one of the biggest surprises from the first assessment of collaborative problem-solving skills in 2015 (Box 1.1). On average across OECD countries, fewer than one in ten 15-year-old students could solve problem-solving tasks with fairly high collaboration complexity, where they had to maintain awareness of group dynamics and take initiative to overcome obstacles and resolve disagreements and conflicts, even when the subject-matter content of these tasks was rather simple.

Box 1.1. How good are students in solving problems collaboratively?

Figure 1.1

Countries' and economies' relative performance in collaborative problem solving Score-point difference between actual and expected performance in collaborative problem solving



Note: A student's relative performance in collaborative problem solving is defined as the residual obtained upon an ordinary least-squares regression of the student's performance in collaborative problem solving over his or her performance in science, reading and mathematics. The regression is performed at an international level, pooling data from all countries and economies that participated in the collaborative problem-solving assessment. 1. B-S-J-G (China) refers to the four PISA-participating provinces: Beijing, Shanghai, Jiangsu and Guangdong.

Countries and economies are ranked in descending order of the relative performance in collaborative problem solving.

Source: OECD (2017), *PISA 2015 Results (Volume V): Collaborative Problem Solving*, OECD Publishing, Paris, Tables V.3.2 and V.3.9a, <http://dx.doi.org/10.1787/9789264285521-en>.

StatLink  <http://dx.doi.org/10.1787/888933615819>

In today's schools, students typically learn individually, but tomorrow's world will rely upon collaborators and orchestrators. In 2015, to assess students' preparedness for this, PISA carried out the world's first international assessment of collaborative problem-solving skills, defined as the capacity of students to solve problems by pooling their knowledge, skills and efforts with others.

As one would expect, students who have stronger reading or mathematics skills also tend to be better at collaborative problem solving, because complex reasoning and managing and interpreting information are always required to solve problems. The same holds across countries: top-performing countries in PISA (such as Japan, Korea and Singapore in Asia, Estonia and Finland in Europe, and Canada in North America) also come out on top in the PISA assessment of collaborative problem solving.

...



But individual cognitive skills explain less than two-thirds of the variation in student performance on the PISA collaborative problem-solving scale, and a roughly similar share of the performance differences among countries on this measure is explained by the relative standing of countries on the 2012 PISA assessment of individual, creative problem-solving skills. There are countries where students do much better in collaborative problem solving than one would predict from their performance in the PISA science, reading and mathematics assessments. For example, Japanese students do very well in those subjects, but they do even better in collaborative problem solving. The same holds for students in Australia, New Zealand and Korea. Students in the United States also do much better in collaborative problem solving than one would expect from their average performance in reading and science and their below-average performance in mathematics. By contrast, students in the four Chinese provinces that took part in PISA (Beijing, Shanghai, Jiangsu and Guangdong) did well in mathematics and science, but came out just average in collaborative problem solving. The same holds for Lithuania, Montenegro, the Russian Federation, Tunisia, Turkey and Abu Dhabi (United Arab Emirates).

The results show that some countries do much better than others in developing students' collaborative problem-solving skills, but all countries need to make headway in preparing students for a much more demanding world. An average of only 8% of students can solve problem-solving tasks with fairly high collaboration complexity. Even in top-performer Singapore, just one in five students attains this level.

Similarly, all countries need to make headway in reducing gender disparities. When PISA assessed individual problem-solving skills in 2012, boys scored higher in most countries. By contrast, in the 2015 assessment of collaborative problem solving, girls outperformed boys in every country, both before and after considering their performance in science, reading and mathematics. The relative size of the gender gap in collaborative problem-solving performance is even larger than it is in reading.

These results are mirrored in students' attitudes towards collaboration. Girls reported more positive attitudes towards relationships, meaning that they tend to be more interested in the opinions of others and want others to succeed. Boys, on the other hand, are more likely to see the instrumental benefits of teamwork and how collaboration can help them work more effectively and efficiently.

There seem to be factors in the classroom environment that relate to those attitudes. PISA asked students how often they engage in communication-intensive activities, and the results show a clear relationship between the frequency of these activities and positive attitudes towards collaboration.

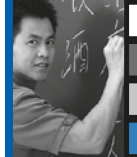
Many schools can also do better in fostering a learning climate where students develop a sense of belonging and where they are free of fear. Students who reported more positive student-student interactions score higher in collaborative problem solving, even after considering the socio-economic profile of students and schools.

It is interesting that disadvantaged students often see the value of teamwork more clearly than their advantaged peers. Schools that succeed in building on these attitudes by designing collaborative learning environments might be able to engage disadvantaged students in new ways.

Finally, when it comes to helping students develop their social skills, education does not end at the school gate. Parents need to play their part. For example, students score much higher in the collaborative problem-solving assessment when they reported that they had talked to their parents outside of school on the day prior to the PISA test, and also when their parents agreed that they are interested in their child's school activities or encourage them to be confident.

In sum, in a world that places a growing premium on social skills, a lot more needs to be done to foster those skills far more systematically across the school curriculum. Strong academic skills will not automatically also lead to strong social skills. Part of the answer might lie in giving students more ownership over the time, place, path, pace and interactions of their learning. Another part of the answer can lie in fostering more positive relationships at school and designing learning environments that benefit students' collaborative problem-solving skills and their attitudes towards collaboration. Schools can identify those students who are socially isolated, organise social activities to foster constructive relationships and school attachment, provide teacher training on classroom management and adopt a whole-of-school approach to prevent and address bullying. But part of the answer lies with parents and society at large. It takes collaboration across a community to develop better skills for better lives.

Source: OECD (2017b), *PISA 2015 Results (Volume V): Collaborative Problem Solving*, <http://dx.doi.org/10.1787/9789264285521-en>.



More generally, changing skill demands have elevated the role of social and emotional skills. Such skills are involved in achieving goals, living and working with others and managing emotions. They include character qualities such as perseverance, empathy or perspective, mindfulness, ethics, courage and leadership. Developing those kinds of characteristics is often what distinguishes elite schools. But for the majority of students, character formation in school remains a matter of luck, depending on whether this is a priority for their teachers, since very few education systems have made such broader goals an integral part of what they expect from students.

Social and emotional skills, in turn, intersect in important ways with diversity. They can help students live and work in a world in which most people need to appreciate a range of ideas, perspectives and values and to collaborate with people of different cultural origins, a world in which people need to decide how to trust and collaborate across such differences, often bridging space and time through technology, and a world in which their lives will be affected by issues that transcend national boundaries. Effective communication and appropriate behaviour within diverse teams are also keys to success in many jobs and will remain so as technology continues to make it easier for people to connect across the globe. Employers increasingly seek to attract learners who adapt easily and are able to apply and transfer their skills and knowledge to new contexts. Work readiness in an interconnected world requires young people to understand the complex dynamics of globalisation and be open to people from different cultural backgrounds.

Engaging with different perspectives and world views requires individuals to examine the origins and implications of their own assumptions and those of others. This implies profound respect for and interest in others and their concept of reality and perspectives. The ability to see through multiple lenses provides opportunities to deepen and question one's own perspectives and to make more mature decisions. Where we are not successful with this, we are building our education systems on sand.

WHAT THIS MEANS FOR LEARNING, TEACHING AND TEACHERS

The challenge is that developing such knowledge, skills and character qualities requires a very different approach to learning and teaching and a different calibre of teachers.

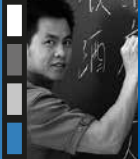
The past was divided, with teachers and content divided by subjects and students separated by expectations of their future career prospects. And the past could be isolated, with schools designed to keep students inside and the rest of the world outside, a lack of engagement with families and a reluctance to partner with other schools and community organisations. The future needs to emphasise the integration of subjects and the integration of students. It also needs to be connected, so that learning is closely related to real-world contexts and contemporary issues and open to the rich resources in the community. 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 businesses, and especially with other schools and learning environments. This is about creating innovative partnerships. Isolation in a world of complex learning systems will seriously limit potential.

Instruction in the past was subject-based. Instruction in the future needs to be more project-based, building experiences that help students think across the boundaries of subject-matter disciplines. The past was hierarchical. The future is collaborative, recognising both teachers and students as resources and co-creators.

In the past, different students were taught in similar ways. Now school systems need to embrace diversity, with differentiated approaches to learning. The goals of the past were standardisation and compliance, with students educated in age cohorts, following the same standard curriculum, all assessed at the same time. The future is about building instruction from student passions and capacities, helping students to personalise their learning and assessment in ways that foster engagement and talents, and about encouraging students to be ingenious. School systems need to better recognise that individuals learn differently, and that people learn differently at different stages of their lives. They need to foster new forms of educational provision that take learning to the learner in ways that allow people to learn in the ways that are most conducive to their progress. We need to take to heart that learning is not a place but an activity. As well as countering educational disadvantage, this will capitalise on the strengths of the most talented students.

In the past, schools were technological islands, with technology often limited to supporting existing practices, and students outpacing schools in their adoption and consumption of technology. Now schools need to use the potential of technologies to liberate learning from past conventions and connect learners in new and powerful ways, with sources of knowledge, with innovative applications and with one another.

Where teaching is about imparting prefabricated knowledge, countries can afford low teaching quality. And when teacher quality is low, governments tend to tell their teachers exactly what to do and exactly how they want it done, using an industrial organisation of work to get the results they want. Today, the challenge is to turn teaching into a profession of advanced-knowledge workers, and to do so across the board rather than in pockets of excellence.



What is clear is that such people will not work as exchangeable widgets in schools organised as Tayloristic workplaces that rely mainly on administrative forms of accountability and bureaucratic command-and-control systems to direct their work. To attract the people they need, modern school systems need to transform the organisation of work in their schools to foster professional norms of control and benchmarks, in lieu of bureaucratic and administrative oversight. The past was about received wisdom; the future is about user-generated wisdom.

In the past, the policy focus was on the provision of education. Now it needs to be on outcomes, shifting from looking upwards in the bureaucracy towards looking outwards to the next teacher, the next school and the next education system. In the past, administrations emphasised school management. Now the focus needs to be on instructional leadership, with leaders supporting, evaluating and developing teacher quality and the design of innovative learning environments. The past was about quality control. The future is about quality assurance.

The challenge is that such system transformation cannot be mandated by government, which leads to surface compliance, nor can it be built solely from the ground. Governments cannot apply the innovations in the classroom, but they can help in building and communicating the case for change and articulating a guiding vision for 21st century learning. Governments have a key role as platform and broker, as stimulator, incentiviser and enabler, and they can focus resources, set a facilitative policy climate and use accountability and reporting to encourage new practices. Governments can support the shift in paradigm by setting ambitious goals that foster innovation, providing opportunities for autonomy, choice and competition, empowering agents of change, encouraging risk-taking, and rewarding and giving exposure to success.

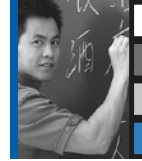
MAKING EDUCATIONAL CHANGE HAPPEN

To transform schooling at scale, it is important to establish not only a clear vision of what is possible, but also smart strategies that help make educational change happen. The good news is that our knowledge about what works in education has improved vastly. It is true that digitalisation has contributed to the rise in populism and the establishment of a post-factual world that can work against rational policy making. But the very same forces, whether in the form of more and better data or new statistical and analytical tools, have also massively expanded the scope and power of social research to create a more evidence-based environment for the development of effective policies. PISA provides a good mirror for that. The first PISA assessment in 2000 was able to explain about a third of the performance variation among schools across the participating countries, but in 2015 that figure had risen to 85%. That means that most of the performance differences among schools can now be statistically associated and explained, with data from students, parents, teachers and school principals, even if the causal nature of many of those relationships remains still insufficiently understood.

But again, knowledge is only as valuable as our capacity to act on it, and the reality is that many good ideas get stuck in the process of policy implementation. One reason for the difficulty in reforming education is simply the scale and reach of the sector. Schools are among the biggest areas of public spending. And because everyone has participated in education, everyone has an opinion about it. Everyone supports education reform – except when they fear it may adversely affect their own children. And even those who promote change and reform often alter their views when they are reminded of what change actually entails. Education is a very visible presence; almost every community has a school, and higher education and training institutions are increasingly part of the landscape. Educational reform is difficult to co-ordinate across an education system and across multiple regional and local jurisdictions.

The issue of loss of advantages or privileged positions is of particular importance in education reform, because the vast structure of established providers (usually public) means there are extensive vested interests. As a result, the status quo has many protectors, stakeholders in education who have a vested interest in preventing change. Even small reforms can involve massive reallocations of resources and touch the lives of millions. This rules out “reform by stealth” and makes it essential to have broad political support for any proposed reform. In essence, education reform will not happen unless educators implement and own it.

There is often uncertainty about who will benefit from reforms and to what extent. This uncertainty is a particularly vexed issue in education because of the range of people who have a stake in education (including students, parents, teachers, employers and trade unions). Uncertainty about costs is problematic, because education infrastructure is large and involves multiple levels of government, each often trying to minimise or shift the costs of reform. Assessing the relative costs and benefits of reform in education is also difficult, because of the large number of intervening factors that can influence the nature, size and distribution of any improvements resulting from reform. It might be an expensive long-term investment, but in the short term it is rarely possible to predict clear, identifiable results from policies, especially given the time lags that are likely to be involved.



Teachers are generally viewed positively by the public, even when there is great dissatisfaction with education systems. Teachers often also command greater public trust than politicians, so any resistance to reform on their part is likely to be effective. Even when parents have a poor opinion of the education system, they will generally have a positive view of their children's school and its teachers. The implementation of reforms is therefore often impossible without the co-operation of education staff. They can easily undermine reforms in the implementation phase, while blaming policy makers for having attempted misguided reforms in the first place. Last but not least, teachers in many countries are well organised. To be fair to them, it should be noted that many teachers have suffered from years of incoherent reforms that disrupt rather than improve educational practice, because they may prioritise volatile political interests over the needs of learners and educators and often do not draw on the expertise and experience of teachers themselves. A recent survey undertaken by the National Association of Schoolmasters Union of Women Teachers (NASUWT) in England (United Kingdom) identified constant change as the number one factor identified as a source of disempowerment by 74% of respondents (NASUWT, 2017). So teachers know that the easiest approach for them may be simply to wait reforms out.

Experience in several countries suggests that strong proactive unions that can successfully separate areas of disagreement and issues of collective bargaining to work with policy makers on professional issues and the design of reforms are essential to effective policy implementation. Interestingly, many of the countries with the strongest student performance also have strong teachers' unions working constructively with policy makers, and these countries treat their teachers as trusted professional partners, thereby facilitating a constructive dialogue based on research and evidence (Schleicher, 2011).

Timing is also relevant to education reform, in more than one sense. Most significantly, there is a substantial gap between the time at which the initial cost of reform is incurred and the time when it is evident whether the benefits of reforms will actually materialise. While timing complicates the politics of reform in many domains, it seems to have a greater impact on education reform, where the lags involved are over so many years. As a result, the political cycle may have a direct impact on the timing, scope and content of education reform. Education reform becomes a thankless task when elections take place before the benefits are realised. Policy makers may lose an election over education issues, but they rarely win an election with education. That may also contribute to the fact that, only about one in ten reforms across OECD countries are followed by any attempt to evaluate their impact (OECD, 2015).

Given that education systems involve multiple levels of government, implementation of comprehensive reform is often difficult to co-ordinate across the various levels of the administration and across multiple regional and local jurisdictions. And it is not only difficult to co-ordinate policy development across levels of governments, but it is also hard to link the perspectives of different government departments. However, if education is to be developed over a lifetime, then a broad range of policy fields need to be involved, including education, family, employment, industrial and economic development, migration and integration, social welfare and public finance. A co-ordinated approach to education policies allows policy makers to identify policy trade-offs, such as between spending on early education or investing in welfare programmes later on.

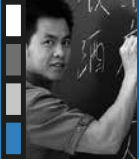
Creating linkages between different policy fields is also important for ensuring efficiency and avoiding duplication of effort. But a whole-of-government approach to education is challenging. Ministries of education will naturally focus on building strong educational foundations for life, with due emphasis on transferrable knowledge and skills. Ministries of employment, by contrast, are mainly concerned with getting unemployed workers off the street through short-term job-specific training that addresses immediate skills mismatches. Ministries of economy may have their eye on the skills needed to secure long-term competitiveness. Those differences in perspectives often play out in the institutional organisation of education.

WHAT WE SHOULD EXPECT FROM TOMORROW'S TEACHERS

Successful education systems in the 21st century will do whatever it takes to develop ownership of professional practice by the teaching profession. Some argue that one cannot give teachers and educational leaders greater autonomy because they lack the capacity and expertise to deliver on it. And that, of course, often holds some truth. But a response that simply perpetuates a prescriptive industrial model of teaching will continue to disengage teachers, just as someone trained to heat up pre-cooked hamburgers will rarely become a master chef.

In contrast, productive learning takes place when teachers feel a sense of ownership over their classrooms, and students feel a sense of ownership over their learning. So the answer is to strengthen trust, transparency, professional autonomy and the collaborative culture of the profession all at the same time.

But the most essential reason why teachers' ownership of the profession is a must-have rather than an optional extra lies in the pace of change in 21st-century school systems. Even the most effective attempts to translate a government-established curriculum into classroom practice will drag out over a decade, because it takes so much time to communicate the goals and methods through the different layers of the system and to build them into traditional methods of teacher education.



In a fast-changing world, when what and how students need to learn changes so rapidly, such a slow process is no longer good enough. It inevitably leads to a widening gap between what students need to learn and what and how teachers teach. The only way to shorten that pipeline is to professionalise teaching, that is to ensure that teachers not only have a deep understanding of the curriculum as a *product*, but equally with the *process* of curriculum and instructional design and the pedagogies to enact and enable the ideas behind the curriculum.

In short, the changes in the demands in our societies have vastly outpaced the structural capacity of our current governance systems to respond. And when fast gets really fast, being slower to adapt makes education systems really slow and disoriented. Even the best education minister can no longer do justice to the needs of millions of students, hundreds of thousands of teachers and tens of thousands of schools. The challenge is to build on the expertise of the hundreds of thousands of teachers and tens of thousands of school leaders and to enlist them in the design of superior policies and practices. Where systems fail to engage teachers in the design of change, teachers will rarely help systems in the implementation of change.

Successful policy implementation now requires the mobilisation of the knowledge and experience of teachers and school leaders who can make the practical connections between the classroom and the changes taking place in the outside world. That is the fundamental challenge of policy implementation in our times. It is not accomplished just by letting a thousand flowers bloom and asking parents to figure out what schools are best. It requires a carefully crafted set of conditions that can unleash the initiative of teachers and schools and build capacity for change.

As the prescriptive approach weakens, the position of classroom practitioners needs strengthening. While governments can establish directions and curriculum goals, the teaching profession needs to take charge of the instructional system, and governments need to find ways to enable and support professionalism. However, increased professional autonomy also implies challenging idiosyncratic practice. It means moving away from every teacher having his/her own approach towards the common use of practices agreed to be effective, making teaching not just an art but also a science.

Paradoxically, the highly standardised industrial work organisation of teaching has often left teachers alone in the classroom. Zero percent school autonomy has meant one-hundred percent teacher isolation behind closed classroom doors. But changing this is not just a matter of adding more time for professional development. Finding out what pedagogical approaches work best in what context takes time and deliberate investment in research, and it also takes collaborative practice, where good ideas spread and scale in the profession.

WHAT WE SHOULD EXPECT FROM TOMORROW'S EDUCATION POLICY MAKERS

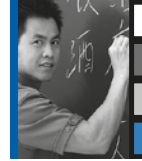
Education policy makers constantly strive to raise quality and equity in education. However, effective policy making and implementation cannot be achieved by policy makers alone. That requires collaboration and constructive dialogue between key stakeholders, including teachers, school leaders and parents.

Effective leadership is central to creating an environment for making this happen, and it is particularly important when there is little coherence and capacity in education. There are many great teachers, schools and educational programmes within every education system, but it takes effective leadership to build a great education system.

The education crisis, mirrored in flat-lining educational outcomes despite rising costs, is at least in part an education policy crisis. Finding adequate and forward-looking responses to the interrelated changes in technology, globalisation and the environment is ultimately a question of leadership. Effective leaders help people to recognise what needs to change, mobilise support and share leadership responsibilities through the system.

Leaders wanting to see forward-looking changes in their school systems have to do more than issue orders and try to impose compliance. They need to build shared understanding and collective ownership, make the case for change and offer support that will make change a reality, and remain credible without being populist. They need to focus resources, build capacity, change work organisations and create the right policy climate, with accountability measures designed to encourage innovation and development rather than compliance. And they need to go against the grain of competitive dynamics and hierarchical bureaucracies that still dominate educational institutions.

System leaders need to tackle institutional structures that are too often built around the interests and habits of educators and administrators rather than those of learners. Most of our school systems are designed to sort students and weed some of them out, not to open opportunities and address the diverse needs of learners. Sorting and weeding were very efficient and effective approaches for the industrial age, when education was about finding and training a small minority of leaders



and then giving everyone else just basic knowledge and skills. In a modern society, where we need to capitalise on all talent and ensure equitable access to learning, such approaches have become a principal barrier to success. There need to be incentives and support for schools to address the needs of all their pupils, rather than getting an advantage by shifting difficult learners elsewhere.

For schools to be entrepreneurial and able to adapt, system leaders need to be able to mobilise the human, social and financial resources needed for innovation, to work as social entrepreneurs both within and beyond their own organisations, and to build stronger linkages across sectors and countries to establish partnerships with government leaders, social entrepreneurs, business executives, researchers and civil society.

For education policy it will also be important to get beyond the unproductive wrangling between forces pushing for greater *decentralisation* and those aiming for greater *centralisation* of the school system. That debate detracts from the real question of what aspects of education are best managed at each level of the education system and the overriding of principle of subsidiarity, where every layer of the school system should continuously ask how it can best support learners and teachers at the front line.

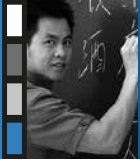
That also means that teachers, schools and local authorities recognise that certain functions, particularly those regarding the establishment of curriculum frameworks, course syllabi, examinations or teaching standards do require a critical mass of capacity and therefore tend to be best supported by some level of centralisation. The test of truth is a coherent instructional system that is available to all students, and in which world-class educational standards feed into well-thought-out curriculum frameworks that guide the work of teachers and publishers of instructional materials.

System leaders need to be strategic (i.e. aware of how organisational policies and practices can either facilitate or inhibit transformation) and be ready to confront the system where it inhibits change. They need to be design thinkers, capable of recognising emerging trends and patterns, and to see how these might benefit or obstruct the innovation they want to achieve. They need to be politically savvy, in terms of working with organisations as well as people. They need to use their knowledge about what motivates people to get them to support their plans for change, and they need to use their understanding of power and influence to build the alliances and coalitions needed to get things done.

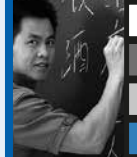
Many teachers and schools are ready for that. To encourage their growth, policy needs to shift towards inspiring and enabling innovation, identifying and sharing best practice. That shift in policy will need to be built on trust – trust in education, in educational institutions, in schools and teachers, in students and communities. In all public services, trust is an essential part of good governance and a key determinant of where great people want to work. But trust cannot be legislated and mandated, and that is why it is so hard to build into traditional administrative structures. Trust is always intentional. It can only be nurtured and inspired through healthy relationships and constructive transparency. That is the lesson we can all learn from Finland, where opinion polls consistently show high levels of public trust in education. At a time when command-and-control systems are weakening, building trust is the most promising way to advance and fuel modern education systems.

THE INTERNATIONAL SUMMIT OF THE TEACHING PROFESSION AS A PLATFORM FOR POLICY MAKERS AND TEACHERS TO FIND SOLUTIONS

So how can policy makers and the teaching profession work together to address these challenges? This is not easy, because there are naturally many difficult issues separating teachers and policy makers. There are opponents of teachers' unions who see them as interfering with promising school reform programmes by giving higher priority to their own bread-and-butter issues than to what the evidence suggests students need to succeed. But the fact is that many of the countries with the strongest student performance also have strong teachers' unions. Indeed, the higher a country is on the PISA league tables, the more likely it is that that country is working constructively with its teacher organisations and is treating its teachers as trusted professional partners. Sometimes, the nature of the relationship between governments and teachers' unions reflects the work organisation in education. A highly industrialised work organisation characterised by standardisation and compliance, where government focuses on prescribing and justifying, and where teachers are expected to do similar work for similar pay, encourages unions that focus on pay and working conditions and tends to lead to stakeholder relationships that are top-down and antagonistic. In turn, a highly professional work organisation, where the role of government is enabling and incentivising and where the teaching profession is characterised by diverse careers, ownership and innovative ways of working, is conducive to strategic, principled and professional working relationships between government and unions. In that sense, every education system gets the teachers' unions it deserves.



The International Summit of the Teaching Profession provides a platform for governments, teachers' unions and professional bodies to redefine the role of teachers and to create the support and collaborative work organisation that can help teachers grow in their careers and meet the needs of 21st century students. What makes the International Summit of the Teaching Profession unique is that ministers and union leaders are sitting next to one another and that, where they may have encountered a stalemate in their own country, they can listen to ministers and union leaders from other countries who might have successfully overcome similar challenges.



Note

1. The PISA 2015 Science Framework defines epistemic knowledge as the understanding of the rationale for the common practices of scientific enquiry, the status of the knowledge claims that are generated, and the meaning of foundational terms such as theory, hypothesis and data (OECD, 2017a).

References

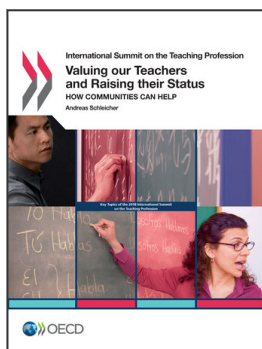
NASUWT (National Association of Schoolmasters Union of Women Teachers) (2017), *The Big Question 2017: An opinion survey of teachers and school leaders*, NASUWT, Birmingham, www.nasuwt.org.uk/uploads/assets/uploaded/7649b810-30c7-4e93-986b363487926b1d.pdf.

OECD (2015), *Education Policy Outlook 2015: Making Reforms Happen*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264225442-en>.

OECD (2017a), *PISA 2015 Assessment and Analytical Framework: Science, Reading, Mathematic, Financial Literacy and Collaborative Problem Solving*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264281820-en>.

OECD (2017b), *PISA 2015 Results (Volume V): Collaborative Problem Solving*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264285521-en>.

Schleicher, A. (2011), *Building a High-Quality Teaching Profession: Lessons from around the World*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264113046-en>.



From:
Valuing our Teachers and Raising their Status
How Communities Can Help

Access the complete publication at:
<https://doi.org/10.1787/9789264292697-en>

Please cite this chapter as:

Schleicher, Andreas (2018), “Emerging trends, challenges and opportunities”, in *Valuing our Teachers and Raising their Status: How Communities Can Help*, OECD Publishing, Paris.

DOI: <https://doi.org/10.1787/9789264292697-3-en>

This work is published under the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of OECD member countries.

This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

You can copy, download or print OECD content for your own use, and you can include excerpts from OECD publications, databases and multimedia products in your own documents, presentations, blogs, websites and teaching materials, provided that suitable acknowledgment of OECD as source and copyright owner is given. All requests for public or commercial use and translation rights should be submitted to rights@oecd.org. Requests for permission to photocopy portions of this material for public or commercial use shall be addressed directly to the Copyright Clearance Center (CCC) at info@copyright.com or the Centre français d'exploitation du droit de copie (CFC) at contact@cfcopies.com.