

Education post-2015: Knowledge and skills transform lives and societies

by Andreas Schleicher, Director for Education and Skills, OECD

Qian Tang, Assistant Director-General, UNESCO

Everywhere, skills transform lives, generate prosperity and promote social inclusion. If there is one lesson we have learned from the global economy over the past few years, it is that we cannot simply bail ourselves out of an economic crisis, we cannot solely stimulate ourselves out of an economic crisis, and we cannot just print money to ease our way out of an economic crisis. We can only grow ourselves out of bad economic conditions and, in the long run, that depends more than anything on equipping more people with better skills to collaborate, compete and connect in ways that drive our societies forward – and on using those skills productively. Ensuring that all people have a solid foundation of knowledge and skills must therefore be the central aim of the post-2015 education agenda.

This is not primarily about providing more people with more years of schooling; in fact, that's only the first step. It is most critically about making sure that individuals acquire a solid foundation of knowledge in key disciplines, that they develop creative, critical thinking and collaborative skills, and that they build character attributes, such as mindfulness, curiosity, courage and resilience.

Every three years, some 70 countries compare how well their school systems prepare young people for life and work. The framework for these comparisons is the world's premier metric for learning outcomes, an international assessment of the knowledge and skills of 15-year-old students known as PISA, the Programme for International Student Assessment. PISA does not just examine whether students have learned what they were taught, but also assesses whether students can creatively and critically use what they know. Of course, such international comparisons are never

easy and they aren't perfect. But they show what is possible in education and they help governments to see themselves in comparison to the education opportunities and results delivered by the world's education leaders.

Low performance in education carries a high cost

This report takes those comparisons a step further in the context of education post-2015. Looking at the historic relationship between improved skills and economic growth, the authors quantify the economic implications of improved schooling outcomes.

The first thing the results show is that the quality of schooling in a country is a powerful predictor of the wealth that countries will produce in the long run. Or, put the other way around, the economic output that is lost because of poor education policies and practices leaves many countries in what amounts to a permanent state of economic recession – and one that can be larger and deeper than the one that resulted from the financial crisis at the beginning of the millennium, out of which many countries are still struggling to climb.

Ensuring universal access to schooling at the current quality of education yields some economic gains, particularly in the lower-income countries. But improving the quality of schools so that every student reaches at least the baseline Level 1 of performance on the PISA scale – where students demonstrate elementary skills to read and understand simple texts and master basic mathematical and scientific concepts and procedures – has a much, much larger impact on the economy. The report shows that if every

15-year-old student in the world reached at least the baseline Level 1 of performance on the PISA scale by 2030 the benefits for economic growth and sustainable development would be enormous.

Among the countries compared, Ghana has the lowest enrolment rate in secondary schools (46%) and also the lowest achievement levels for those 15-year-olds who are in school (291 PISA points). While it is difficult for Ghana to meet the goal of universal basic skills any time soon, if it did, it would see a gain over the lifetime of its children born today that, in present value terms, is 38 times its current GDP. This is equivalent to tripling Ghana's discounted future GDP every four years during the working life of those students with improved skills.

For lower-middle income countries, the discounted present value of future gains would still be 13 times current GDP and would average out to a 28% higher GDP over the next 80 years. And for upper-middle income countries, which generally show higher levels of learning outcomes, it would average out to a 16% higher GDP.

High-quality schooling and oil don't mix easily

The goal of universal basic skills also has meaning for high-income countries, most notably the oil-producing countries. Many of them have succeeded in converting their natural capital into physical capital and consumption today; but they have failed to convert their natural capital into the human capital that can generate the economic and social outcomes to sustain their future. The report shows that the high-income non-OECD countries, as a group, would see an added economic value equivalent to almost five times the value of their current GDP – if they equipped all students with at least basic skills. So there is an important message for countries rich in natural resources: the wealth that lies hidden in the undeveloped skills of their populations is far greater than what they now reap by extracting wealth from natural resources. And there is more: PISA shows a significantly negative relationship between the money countries earn from their natural resources and the knowledge and skills of their school population. So PISA and oil don't mix easily. Exceptions such as Australia, Canada and Norway, which are rich in natural

resources and still score reasonably well on PISA, have all established deliberate policies of saving these resource rents, not just consuming them.

One interpretation is that in countries with little in the way of natural resources – such as Finland, Japan and Singapore – education is highly valued, and produces strong outcomes, at least partly because the public at large has understood that the country must live by its knowledge and skills, and that these depend on the quality of education. In other words, the value that a country places on education may depend, at least in part, on a country's view of how knowledge and skills fit into the way it makes its living.

High income doesn't protect against shortcomings in education

One might be tempted to think that high-income countries have had all the means to eliminate extreme underperformance in education and should already have achieved the post-2015 education goal and targets. But the report shows otherwise. For example, 24% of 15-year-olds in the United States do not successfully complete even the basic Level 1 PISA tasks. If the United States were to ensure that all students meet the goal of universal basic skills, the economic gains could reach over USD 27 trillion in additional income for the American economy over the working life of these students.

So even high-income OECD countries would gain significantly from bringing all students up to basic skills by 2030. For this group of countries, average future GDP would be 3.5% higher than it would be otherwise. That is close to what these countries currently spend on their schools. In other words, the economic gains that would accrue solely from eliminating extreme underperformance in high-income OECD countries by 2030 would be sufficient to pay for the primary and secondary education of all students.

Such improvements are entirely realistic in the timescale of the post-2015 education agenda. For example, Poland was able to reduce the share of underperforming students by one-third, from 22% to 14%, within less than a decade. Shanghai in China reduced the share of underperforming students between 2009 and 2012 alone from 4.9% to 3.8%.

And, of course, more ambitious improvements can have much larger potential gains. The calculations involving the movement of all students to basic skills are lower-bound estimates because they assume that the improvement in schools does not affect anybody with higher skills. However, evidence from PISA indicates that school reforms that lead to improved performance at the lower end of the distribution invariably also help those higher in the distribution.

Achieving basic skills would make economic growth more inclusive

A great strength of the universal basic skills objectives for the post-2015 education agenda highlighted in this report is the contribution it would make to inclusive growth. As the authors show, achieving the development goal of universal basic skills has a complementary impact on reducing gaps in earnings that filter into smaller income differences. And it has this impact while also expanding the size of the economy. In this sense, it differs from simple tax and redistribution schemes that might change the income distribution but do not add to societal output. Thus, more inclusive growth made possible through universal achievement of basic skills has tremendous potential to ensure that the benefits of economic development are shared more equitably among citizens. No substitute for improved skills has been identified that offers similar possibilities of facilitating the inclusive growth needed to address the full range of the 17 post-2015 sustainable development goals (SDGs).

While the data show clearly how poor skills severely limit people's access to better-paying and more rewarding jobs, results from the 2012 Survey of Adult Skills also show that individuals with poorer foundation skills are far more likely than those with advanced literacy skills to report poor health, to believe that they have little impact on political processes, and not to participate in associative or volunteer activities.

Excellence and equity are compatible policy targets in the post-2015 education agenda

As important as the achievement of universal basic skills is, the well-being of nations also depends critically on the share of high-skilled workers in the talent pool. The authors show that the economic

impact of the share of students with basic skills is similar across all levels of development. However, the economic impact of the top-performing share of students is significantly larger in countries that have more scope to catch up to the most productive countries, and the process of economic convergence seems accelerated in countries with larger shares of high-performing students. This underlines the importance, particularly for middle-income countries, of investing in excellence in education.

Interestingly, the interaction between the top-performing and basic-literacy shares of students in the authors' growth models appears to produce a complementarity between basic skills and top-level skills: in order to be able to implement the imitation and innovation strategies developed by the most-skilled workers, countries need a workforce with at least basic skills. Investments in excellence and equity in education thus seem to reinforce each other. When countries develop a student population with strong foundation skills, they will be most likely to also develop a larger share of high performers.

There are some caveats to consider

Some may wonder how reliable such long-term projections can be in a post-2015 world that is increasingly complex, uncertain and volatile. However, the analyses in this report rely on just two major assumptions.

The first is that a better-educated workforce leads to a larger stream of new ideas that continues to produce technological progress at a higher rate. For some, that assumption may even seem conservative, given that the world is becoming increasingly knowledge-intensive and is rewarding better skills at an ever higher rate. For those who remain sceptical, the report provides an alternative scenario in which productivity is frozen, and every new worker will simply expand the pool of existing workers with similar skills and continue to work with the same productivity until the end of their working life. This rather pessimistic scenario, in which people just keep doing what they have been doing, leads to smaller but still impressive economic rewards for improved schooling.

The second assumption is that the improved skills will actually be used in the economy. Here, the Survey of Adult Skills shows that there are significant differences

in how well different countries extract value from their talent. Indeed, the toxic coexistence of high unemployment and skill shortages in many countries underlines that point. The survey also shows that even the best skills can atrophy if they are not used effectively. So while improved schooling is a necessary condition for economic progress, countries also need to work on the quality of their institutions to ensure that they add higher value-added jobs to a labour market that helps to get more people with better skills working – and for better pay.

For example, governments need to provide the right institutions, incentives and tax policies to help the economy develop and labour markets work efficiently, to help people invest in their skills and get to the right place for the right job, and to link support to participation in activities that improve individuals' employability. Employers, too, can contribute by investing in learning and by offering adequate flexibility in the workplace. Labour unions need to balance employment protection for established and new workers, and help to ensure that investments in training are reflected in better-quality jobs and higher salaries. The authors factor these issues into the analyses by assuming that new skills in a country will be absorbed as effectively, on average, as has occurred across countries that had undergone similar transitions in their past. The report also examines how changes in the quality of social institutions can affect the economic impact of universal basic skills.

Last but not least, the report limits itself to examining the economic impact of mathematics and science knowledge and skills, simply because those can be measured reliably and consistently across countries and cultures. That leaves out important other skills and therefore suggests that the economic impact of skills in this report is underestimated. It also highlights that the post-2030 world will need to work on broadening the measurement of skills to encompass a wider range of cognitive, social and emotional dimensions that are relevant to the future of individuals and societies. This is already a major priority for PISA.

Yes, we can achieve improved learning outcomes by 2030

The message of these rather complex analyses is simple: there is no shortcut to improved learning

outcomes in a post-2015 world economy where knowledge and skills have become the global currency, the key to better jobs and better lives. And there is no central bank that prints this currency. We cannot inherit this currency, and we cannot produce it through speculation; we can only develop it through sustained effort and investment in people. That raises the question of whether the improvements in learning outcomes suggested in this report are realistic – and how they can be achieved by 2030.

The answer to the first question is unambiguously positive. PISA shows that top performers in education, such as Shanghai in China, Korea and Singapore, were able to further extend their lead over the past years, and countries like Brazil, Mexico, Tunisia and Turkey achieved major improvements from previously low levels of performance – all at a speed that exceeds, by a large margin, the improvements described in this report. The example of Brazil is particularly significant, as the country was able to substantially raise both participation and outcomes over the past decade.

Even those who claim that the performance of students mainly reflects social and cultural factors must therefore concede that improvements in education are possible. A culture of education isn't just inherited, it is created by what we do. Of the 13 OECD countries that significantly improved their learning outcomes as measured by PISA between 2003 and 2012, three also show improvements in equity in education during the same period, and another nine improved their performance while maintaining an already high level of equity – proving that countries do not have to sacrifice high performance to achieve equity in education opportunities. For example, Germany was able to significantly raise learning outcomes and close socio-economic gaps by half; and a major overhaul of Poland's school system helped to dramatically reduce performance variations among schools and improve overall performance by more than half a school year.

No, it's not just about money

The answer to the second question remains the subject of extensive research and analysis. Clearly, there are wide differences between countries in the quality of learning outcomes. The equivalent of

almost six years of schooling separate the highest and lowest average performances of the countries that took part in the latest PISA mathematics assessment.

But there is now also considerable knowledge about the policies and practices that relate to improved learning. The individual, school-level and systemic factors that have been measured by PISA alone explain 85% of the performance variation among schools in the participating countries, so we know that improved schooling outcomes do not come about haphazardly.

Resources are part of the answer. In particular, for countries that currently invest less than USD 50 000 per student between the age of 6 and 15, the data show an important relationship between spending per student and the quality of learning outcomes. But money alone gets education systems just up to a point. In fact, among the countries that invest at least USD 50 000 per student between the age of 6 and 15 – and they include all high-income and many middle-income countries – the data no longer show a relationship between spending and the quality of learning outcomes. In other words, two countries with similarly high spending levels can produce very, very different results. So for the countries that have ensured an essential level of funding, it is not primarily about how much they spend on education, but about how they spend their resources. For example, whenever high-performing education systems have to make a choice between a smaller class and a better teacher, they go for the latter.

So there is a striking asymmetry in the relationship between skills and money. While improved skills consistently generate more money for individuals and nations, improved skills do not automatically require more money. As a result, the world is no longer divided neatly into rich and well-educated countries and poor and badly educated ones. With the right policies, countries can break out of the cycle of poor outcomes in education leading to poor economic outcomes in the timescale envisaged in the post-2015 education agenda.

Underperformance is also not just an issue of poor kids from poor neighbourhoods; it is an issue for many kids in many neighbourhoods and many countries. The large share of students from advantaged backgrounds, in some of the wealthiest countries, who do not attain even basic

skills proficiency is worrying. And the fact that the 10% most disadvantaged children in Shanghai outperform the 10% most advantaged children in large parts of Europe and the United States reminds us that poverty isn't destiny. No one can afford to be complacent.

All of this shows that improvements in learning outcomes can be achieved by all countries by 2030 with the right education policies and practices.

We can learn from good examples

So what can we learn from the world's education leaders? The first lesson from PISA is that the leaders in high-performing school systems seem to have convinced their citizens to make choices that value education more than other things. Chinese parents and grandparents tend to invest their last renminbi into the education of their children, their future. In much of Europe and North America, governments have started to borrow the money of their children to finance their consumption today and the debt they have incurred puts a massive break on economic and social progress.

But placing a high value on education is just part of the equation. Another part is the belief in the success of every child. Top school systems expect every child to achieve and accept no excuse for failure. They realise that ordinary students have extraordinary talents and they embrace diversity with differentiated instructional practices.

And nowhere does the quality of a school system exceed the quality of its teachers. Top school systems pay attention to how they select and train their staff. They attract the right talent and they watch how they improve the performance of teachers who are struggling. They also provide intelligent pathways for teachers to grow in their careers.

High performers have also moved on from industrial to professional forms of work organisation in their schools. They encourage their teachers to use innovative pedagogies, to improve their own performance and that of their colleagues, and to work together to define good practice. They grow and distribute leadership throughout the school system. The goal of the past was standardisation and compliance; today's best school leaders enable their schools to be inventive.

Perhaps the most impressive outcome of world-class school systems is that they deliver high quality across the entire school system so that every student benefits from excellent teaching. School systems as diverse as those in Finland and Shanghai attract the strongest principals to the toughest schools and the most talented teachers to the most challenging classrooms.

Effective policies are usually far more easily designed than implemented. But the world provides plenty of examples of improvements in education, and there is no time to lose if we are to achieve the goal and targets set out in the post-2015 education agenda. Without the right skills, people end up on the margins

of the society, technological progress doesn't translate into economic growth, and countries face an uphill struggle to remain ahead in this hyper-connected world. Ultimately in this scenario, the social glue that holds our societies together will disintegrate. The world has become indifferent to past reputations and unforgiving of frailty. Success will go to those individuals, institutions and countries that are swift to adapt, slow to complain and open to change. The task for governments is to help their citizens rise to this challenge by ensuring that by 2030 all of their people are equipped with the knowledge and skills they need for further education, work and life.



From:

Universal Basic Skills

What Countries Stand to Gain

Access the complete publication at:

<https://doi.org/10.1787/9789264234833-en>

Please cite this chapter as:

OECD (2015), "Editorial", in *Universal Basic Skills: What Countries Stand to Gain*, OECD Publishing, Paris.

DOI: <https://doi.org/10.1787/9789264234833-2-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.