



# Creating The 21st Century Workforce

How can today's education systems meet tomorrow's needs?

A number of prominent political, business and education leaders provide their view on this pressing issue.

**Foreword by President Bill Clinton**

Includes results from a global survey of 400 senior business leaders entitled 'Business on the state of education'. The research was conducted by PricewaterhouseCoopers (PwC) International Survey Unit on behalf of GEMS Education.



# Foreword by President Bill Clinton

Founding Chairman of the Clinton Global Initiative  
and 42nd President of the United States.

If we want to create strong economies, halt climate change, and increase quality of life across the globe, than we have to prepare far more people than we are now to do their part.

When children get the education they need and deserve, they live longer, lead healthier lives, have more opportunities to advance their own careers, and do more to improve the lives of their families and communities.

Every year a person is in school increases earning potential and giving capacity. And the benefits span generations. In many countries, each additional year of education completed by a woman means her children also will stay in school for an additional one-third or half a year.

We live in the most interdependent age in history. The world's borders look more like nets than like walls, which means we can be affected by what people do half a world away.

One in five adults - 774 million people lack basic literacy skills, and 75 million children are out of school. Almost all of these children, more than 95 percent, live in developing countries. These are sobering numbers.

The good news is that intelligence is equally distributed and so is hard work. When you build systems that work and invest in accessible and affordable education, good things happen for them - and for us.

K-12 students can make even more of their lives if they have the knowledge and resources to go into higher education, the gateway to even more fulfilling and higher-paying jobs, especially in technology, green energy, and other fields that are expanding faster than the pool of skilled employees.

I am pleased to introduce this collection of ideas about how best to prepare students to be global citizens. Our interdependence can lead to a world of shared possibilities and a profound sense of obligation to the future; a world where we celebrate our differences and we believe our common humanity matters most.

We need to invest our resources in building the future. Twenty-first century citizenship must include active participation in solving the challenges and seizing the opportunities of our time.

**Bill Clinton**  
Harlem, New York

September 2011

# Chris Kirk

Chief Executive, GEMS Education Solutions, United Kingdom.



Chris has 17 years experience in the education sector, from both a public and private sector perspective. At PwC he lead the UK Education practice and was Chair of the Global Education Network, which links 70 PwC offices across the world. Chris' work focuses on designing and implementing educational policies and programmes, and on helping education organisations to maximise their potential for the benefit of learners. Prior to PwC, Chris was in the UK Government's Department for Education and Skills, where he was in the Civil Service Fast Stream.

**Fewer than 20% described government education systems as preparing students 'very well'. I would question, given the urgency and centrality of this issue, whether this is good enough?**

As I studied the diverse views of our contributors around the world - from President Clinton's forward to the detailed analysis presented by Harry Patrinos of the World Bank - and listened to the voice of the panel of the 400 senior executives we surveyed in China, Brazil, the USA and the UK, I took a clear message: education is an urgent issue on the 21st century to-do list.

The skills we need are changing significantly from those of the past. But it seems that these skills are not yet being delivered sufficient to our needs, and meeting this challenge will require new ways of working involving government, society in the broadest sense, and the private sector.

As UNESCO Director-General Irina Bokova asserts, education must be inclusive and holistic in the 21st century. Our employer panel told us that it is how people work, as much as what they know or can do, that must change. Adaptation to technological advances was the most common example of this change, followed by an ability to work with multi-lingual global colleagues.

But beyond these general patterns we find significant diversity, even in terms of the purpose of education - for example, should the focus be the production of workers to fuel industrialisation or the creation of independent learners capable of significant innovation? This depends on context, supporting the World Bank's renewed focus on education sector planning.

In relation to the results of the employer survey it is of concern that fewer than half of the employers surveyed felt their government's education system were preparing students 'well' to meet their needs. Fewer than 20% described the education system as preparing students 'very well'. I would question, given the urgency and centrality of this issue, whether this is good enough? Sunil Bharti Mittal reminds us in his article that education needs its own 'quality revolution', as has happened in car manufacturing, so that students, wherever they come from, can expect an education that meets their needs.

Nor were employers always convinced that governments were giving them sufficient opportunities to influence the direction of education. They identified a range of ways to address this gap, such as working with government directly, pooling resources with other businesses in order to service students directly and widening the talent pool by recruiting from across the globe. Tellingly, the most common suggestion was to work with private providers to commission customised individual employee education.

I take the view that to provide inclusion and a truly civilised society, and not just a workforce, it is essential that governments continue to take a keen interest in education. But it does seem clear from this research that if governments are not to be bypassed by businesses which must meet urgent skills requirements, those governments need to work with businesses in new ways, harnessing the voice of the employer as well as the private sector's flexibility and ability to personalise its services. A genuine partnership of public, private and voluntary services must surely be the only sustainable way forwards.

Chris Kirk

# Sunil Bharti Mittal

Chairman and Group CEO, Bharti Enterprises Ltd, India.



Sunil Bharti Mittal is an Indian telecom mogul, philanthropist and the Founder, Chairman and Group CEO of Bharti Enterprises. The US\$8.3 billion turnover company runs India's largest GSM-based mobile phone service and world's fifth largest wireless company with over 190 million customers across 19 countries in Asia and Africa. In 2007, Mittal was awarded the Padma Bhushan, India's third highest civilian honour.

Only 50% of UK respondents and 42.2% in the US felt the state was preparing students 'well' or 'quite well' versus 74% in China.

PricewaterhouseCoopers (PwC) International Survey Unit

It is imperative for any system to redefine itself now and then to keep in sync with the times. The same is true for education. The educational system is crucial for any country's economic growth and competitiveness; it develops the talent, capabilities and nurtures the feedstock for a nation's talent pipeline.

In India, the challenges are well documented - poor quality of education, well intentioned programmes failing, initiatives not completed, teacher/student absenteeism, insufficient teacher training, high student-teacher ratio, poor infrastructure, etc. A rapid increase in the number of students is also placing considerable stress on traditional eco-systems. This is fast becoming unsustainable.

Today, we have a situation where a large number of students are left out and thereby, removed from tasting the fruit of the country's economic progress. Social inclusion is absolutely vital for any form of sustainable growth and this cannot be ignored.

Globalisation adds to this complexity. Declining birth rates, an ageing population and a skills shortage in developed countries on one hand; high birth rates, larger populations and lack of local institutions in developing countries on the other, is leading to migration and global student mobility. According to a recent study, 3.3 million students are studying overseas at the moment and this is expected to increase to 5.8 million by 2025. 65% of these students are going to originate in Asia.

Overcoming these hurdles will need innovative approaches, new methods and new platforms for delivery. Technology offers that solution. It is the game changer that will help leapfrog deficiencies in resources and promote inclusion. In other words, 'Inclusion through Technology', what I would like to define as the new meaning of 'IT'.

By the end of 2010, there were 5.3 billion mobile subscriptions worldwide. 90% of the world's population and 80% of the world's rural population had access to mobile networks. While 71% of the population in developed countries and 21% in developing countries were online.

This provides an amazing opportunity to overcome the normal barriers and reach out to students no matter where and how they live through electronic or mobile education (e-Education or m-Education). It will provide the opportunity to students to study and live up to their potential who wouldn't have otherwise had access to a proper school or a well-trained teacher.

It is important to identify how these new initiatives can be implemented. Governments must have the necessary policies in place and the political resolve to support and facilitate this transformation. This is not a matter of choice. It is one of necessity.

**Sunil Bharti Mittal**

# Geoffrey Canada

President and Chief Executive Officer for Harlem Children's Zone, USA.



In his 20-plus years with Harlem Children's Zone, Inc., Geoffrey Canada has become nationally recognized for his pioneering work helping children and families in Harlem, New York City, and as a passionate advocate for education reform.

The Children's Defense Fund calls it the country's "Cradle to Prison Pipeline": many of our 14 million children living in poverty get a lousy education that fails to prepare them for today's high-skills jobs.

Today's worldwide economic crisis must be seen as a call to improve our global workforce through education so that all of our children, especially the poorest among us, can add their strength to our global economy.

Unfortunately, some pundits and politicians are taking the shortsighted view that governments must cut services, including public education, to restore fiscal order and reduce national debts. If we, however, cut back on our efforts towards public education today, we are guaranteeing that our economic potential will be diminished for decades.

The social cost of failing to educate children is enormous. In the United States, The Children's Defense Fund calls it the country's "Cradle to Prison Pipeline": many of our 14 million children living in poverty get a lousy education that fails to prepare them for today's high-skills jobs.

Unemployed or underemployed, these young people often need social services instead of contributing taxes to pay for government services. Education should be seen as the training ground for tomorrow's workforce.

Children, regardless of their family situation, must be seen as potential resources to be readied for the future. When we see all children as "our children," then we can begin to create a new pipeline, a pipeline to success.

It begins with strengthening schools. Teachers and school staff need to be treated as the critically important, highly skilled professionals they are, but that also means they must be held accountable. We must change the status quo so the primary goal of schools is to serve the children inside them, not the adults.

Schools, though, can't be expected to do the job in isolation. We need to consider the entire child, which means improving the support systems outside of school. Children need adequate health care, from getting glasses to eating healthy food, from seeing the dentist to exercising regularly.

Children, it should go without saying, need to live in safety, free from the threat of violence – at home and in the street. So when we talk about improving education, the conversation has to include strengthening families and communities.

For those of us who have been blessed with enough resources to care for our children, there's never a question about doing what's necessary to help them become happy, self-sufficient adults.

When we look at all of the world's children and apply this same "whatever it takes" attitude, we will be taking the first step towards creating a sustaining global marketplace for us all.

**Geoffrey Canada**

# Irina Bokova

Director General of UNESCO, France.



Photograph © UNESCO / Michel Ravassard

Irina Bokova is the current Director-General of UNESCO. Born in 1952 in Bulgaria, Bokova is the first female and Eastern European to head UNESCO. She was also the Ambassador of the Republic of Bulgaria to France and Monaco, Personal Representative of the Bulgarian President to the “Organisation Internationale de la Francophonie” and Permanent Delegate to UNESCO from 2005 to 2009.

**41.5%** of respondents felt the Government should work with private providers to commission customised individual employee education.

PricewaterhouseCoopers (PwC) International Survey Unit

Education is one of the most powerful ways to build more inclusive and democratic societies and a more equitable and sustainable world. It is a force for humanism, strengthening human dignity and fundamental rights through individual empowerment. At the same time, education, training and learning systems provide the foundations for healthy economic development. Simply put, education brings sustainability to development.

UNESCO works every day to promote access to education as a fundamental human right and as a motor of economic growth and development. This guides our support to countries in their efforts to reach the Millennium Development Goals, the objectives of Education for All and the Decade of Education for Sustainable Development.

Our starting point is clear. To create healthy societies and provide for tomorrow's workforce, education must be inclusive and holistic. Learning must be a lifelong journey, starting in early childhood through to primary, secondary and higher education, along with literacy and technical and vocational skills and training. In times of fast-paced change affecting all aspects of our societies and labour markets, effective lifelong learning is a powerful development accelerator. Through formal, informal and non-formal systems, individuals must be allowed to upgrade continuously their knowledge and skills and to learn new ones.

Many UNESCO Member States have made substantial progress towards establishing lifelong learning systems. It is time now to go much further – to place quality lifelong learning at the heart of public policy and practice.

UNESCO supports its Member States in developing holistic education and training services for all of their citizens. Our goal is to ensure that every individual has access to quality education and learning through multiple pathways that meet their needs as they evolve throughout life. This includes learning at the workplace, which carries an increasingly important responsibility in the creation of learning societies and improved coordination between different stakeholders, such as social partners and civil society, in the governance, design and delivery of education and training systems.

We will build tomorrow's workforce by creating today strong systems for lifelong learning. This calls for education, training and learning systems that can adapt to today's needs and anticipate those of the future. It also requires targeted policies to reach groups that are at disadvantage in the labour market and society. These provide the basis for resilient societies, where all citizens can find fulfilment and are able to respond to the pressures of change.

Most fundamentally, education is a force for peace, for building understanding and promoting intercultural dialogue on the basis of fundamental rights and freedoms. For a better future, we must make lifelong learning a reality for all people everywhere today.

**Irina Bokova**

# Professor Tarun Khanna

Jorge Paulo Lemann Professor, Harvard Business School, USA.  
Director, South Asia Institute, Harvard University, USA.



Tarun Khanna is the Jorge Paulo Lemann Professor at the Harvard Business School, where he has studied and worked with multinational and indigenous companies and investors in emerging markets worldwide. He was named Harvard University's Director of the South Asia Initiative in the fall of 2010. He joined the HBS faculty in 1993, after obtaining an engineering degree from Princeton University (1988) and a Ph.D. from Harvard (1993), and an interim stint on Wall Street. He currently teaches in Harvard's executive education programs and is Faculty Chair for HBS activities in India.

**74.7%** of 'agri/mining/manu' respondents stated there was some or a lot of opportunity to input into the state education system versus **48.6%** of 'service' respondents.

PricewaterhouseCoopers (PwC) International Survey Unit

The allocation of talent – into educational institutions and from these institutions to productive endeavours – deserves far more attention than it receives. As the world prepares to welcome its 7 billionth resident, projected sometime around October 2011, it is clear that demographic challenges – shortages and surpluses – make attention to talent allocation even more vital than before.

Let me address one failure of efficient allocation whose redress could address much hand-wringing about talent shortages and inadequacies. The current 'global' workforce is not "inclusive." It is blindingly obvious that talent from the poorer parts of the world lacks mechanisms to fill demand for its services in the developed world. But the problem persists even within countries, especially in the fast-growing, large emerging markets.

In India, as a specific example of a wider phenomenon, mainstream corporations, indigenous as well as multinational, find it cost-effective to recruit only at a handful of well-known educational institutions. Think less than a dozen for most, perhaps a few dozen institutions for the most adventurous employers. But there are, by some counts, thousands of educational institutions in India.

For graduates of most programs, lacking the imprimatur of a 'named' institution, it is nigh impossible to find a way into the mainstream economy. The talent lying therein is thus woefully underutilized, not "included" in modernity.

Two young engineers in New Delhi created Aspiring Minds in 2009, a state-of-the-art skills assessment company dedicated to the proposition that clever algorithms and a judiciously developed nationwide technology platform could offer corporate employers access to India's thousands of college graduates, not just those gracing the country's top few institutions. I supported them.

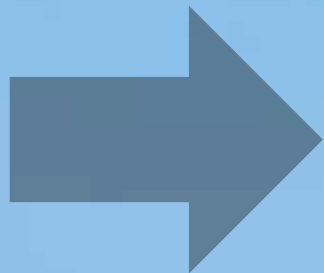
Today, Aspiring Minds offers a concrete demonstration of the value of assessments in leveling the playing field for talent. Through just this one startup, tens of thousands of disenfranchised have already been able to stride over a technological bridge to modernity.

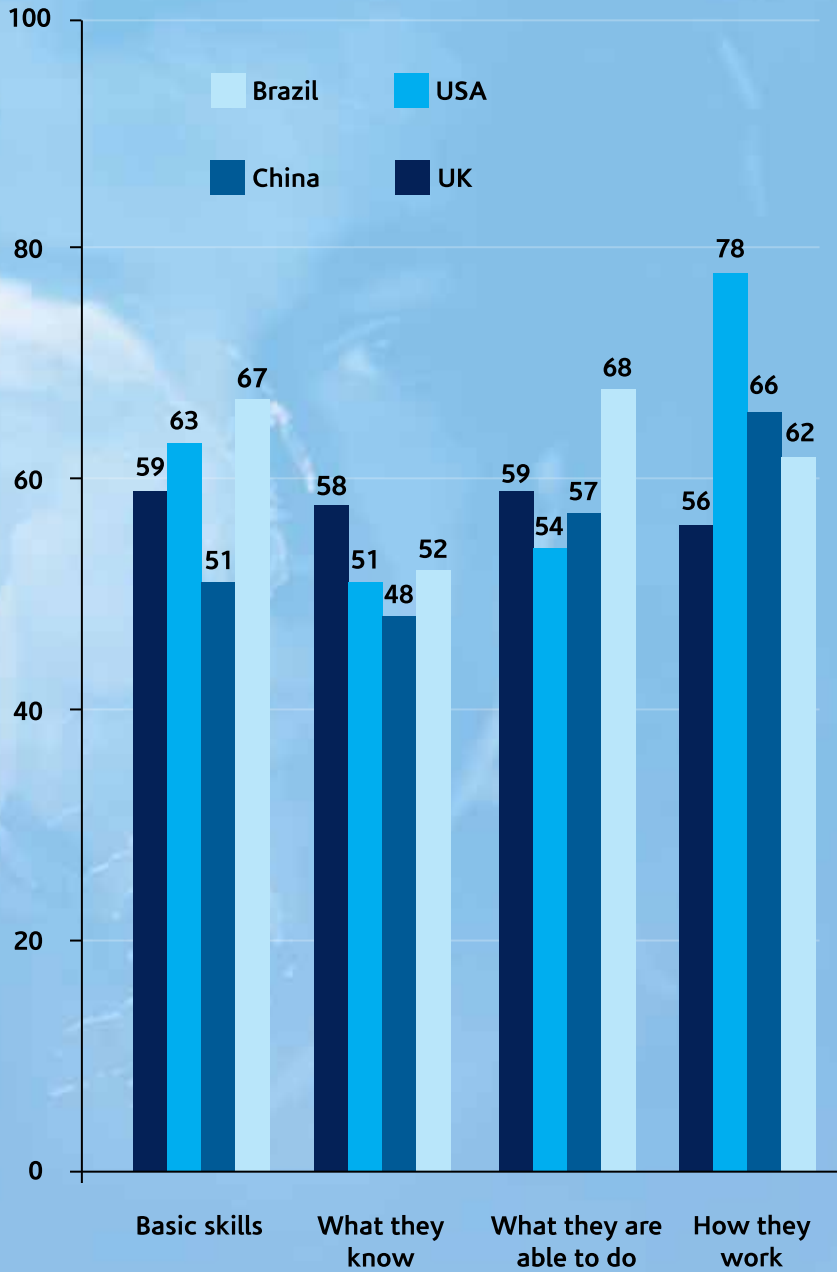
A moment's thought will convince that better assessment has many other functions. For example, in the pre-reform India of the 1970s and 1980s, all of my age group were encouraged to strive to be engineers or doctors.

A more accurate assessment of aptitude and interests can steer youth to numerous equally productive and diverse occupations in the decades ahead. We can do much better.

**Professor Tarun Khanna**

In your opinion,  
which of the  
following  
areas need to  
be improved  
within your  
government or  
state education  
system?





# Linda Zecher

Corporate Vice President, Worldwide Public Sector, Microsoft Corporation, USA.



Linda Zecher is corporate vice president of Microsoft's Worldwide Public Sector organization, leading a team of more than 1,900 sales and marketing professionals serving government, education and non-privatized healthcare customers in more than 100 countries. In this role, Zecher oversees Microsoft's work in providing innovative technology solutions and forward-thinking programs to help public sector organizations provide efficient and effective public services to their citizens and build the capacity of their populations.

**37.3%** of US respondents felt the government was not bothered about working with business to improve education provision.

PricewaterhouseCoopers (PwC) International Survey Unit

Education is the foundation for the future competitiveness of any country or community, and it is the passport to opportunity for any individual young person. It must be an education that truly prepares students to succeed and fulfill their potential in the knowledge-based global economy.

Technology is an important component of that, as basic IT skills represent the new literacy in today's global economy. Yet digital literacy is only one part of a broader set of 21st century skills that students need to fully thrive in the fast-evolving global marketplace. Students must adapt not only to new technologies, but also new social environments that are continually changing the way we live, communicate and work in a knowledge-based economy.

The ability of schools and educators to effectively translate these "21st-century skills" to the classroom will shape the economic and social development of countries and communities for years to come. Preparing students for the 21st-century workplace requires holistic system-wide change, rooted innovative teaching and learning practices. Such a transformation is not easy and it requires real partnership among governments, educators, NGOs and the private sector to make a real and sustainable impact.

In recognition of this challenge, Microsoft, along with Cisco and Intel, launched a research framework, ATC21S ([www.atc21s.org](http://www.atc21s.org)), for the acceleration of education reform in partnership with governments, inter-governmental organizations (IGOs) and researchers and teaching institutions. The goal of the initiative, led by the University of Melbourne under the direction of Professor Patrick Griffin, is to create a new 21st-century assessment, teaching and curriculum framework that will help students develop the skills required to be successful in the 21st-century workplace.

Based on extensive research, ATC21S is developing methods to assess skills that will form the basis for what is required in 21st-century curricula, with an emphasis on communication and collaboration, creativity, critical thinking, problem solving, citizenship, and digital literacy. We aim to offer 21st-century curriculum recommendations for the education system to support an improved work force. The goal is to enable educators and school leaders with a new assessment framework and teaching and learning resources to help their students fully develop their 21st-century skills.

Our broad-ranging commitment to global education is grounded in the belief that access to a quality education should be a right, not a privilege for all young people around the world. Education needs to nurture the complex set of skills that will ready our students for the dynamic global economy of the 21st century.

Making that a reality is a shared interest and shared responsibility for all of us: the public sector, the private sector and beyond. The task is not easy, but it is an imperative. It requires strong partnerships, bold vision and committed leadership from all corners to bring about the systematic, scalable and sustainable transformation that our young people deserve and our countries will require in the global economy of tomorrow.

**Linda Zecher**

# Harry Patrinos

Lead Education Economist, Education Human Development Network,  
The World Bank, currently seconded to CfBT, USA.



Harry Anthony Patrinos is Lead Education Economist at the World Bank. He specializes in all areas of education, especially school-based management, demand-side financing and public-private partnerships. He managed education lending operations and analytical work programs in Argentina, Colombia and Mexico, as well as a regional research project on the socio-economic status of Latin America's Indigenous Peoples. He is one of the main authors of the report, Life-long Learning in the Global Knowledge Economy (World Bank, 2003).

In PISA countries, they perform at  
least  $\frac{1}{3}$  of a standard deviation  
better, roughly equivalent to a  
school-year's progress.

$\frac{1}{3}$

A good public education system means public spending. But that does not however necessarily mean public provision. In OECD countries, more than 20 percent of public education expenditure goes to private institutions; whether that is communities, non-governmental organizations (NGOs), faith-based organizations, trade unions, private companies, small scale informal providers and individual practitioners, with about 12 percent of education budgets spent on privately-managed institutions.

Therefore it would seem that a diverse number of providers are involved in publicly-financed education in high-income, high-performing countries. But the sad fact remains that in most parts of the world, the majority of school children are not learning even the basic requirements of functional literacy. This constrains growth for the nation and subjects too many people to a life of poverty. So, besides adequate public finance and diverse providers, what more is needed “to improve the state of the world” through education? For a start, innovation matters. But within a system of contracts – implicit or explicit – and measurable results based on clear standards. To that effect, much recent research from rigorous impact evaluations suggests that non-state management of schools, especially of ‘failing’ or schools in disadvantaged areas, is associated with better performance. But it means a system of choice and attention to equity concerns.

According to the OECD, across Australia, Canada, Finland, Japan and Korea, the five OECD countries with both an above-average student performance in science and a below-average impact of socio-economic background on student performance, 80 percent of 15-year-olds are in schools which reported competing with one or more other schools in the area for students. Students in education systems with 85 percent of schools competing with other schools tend to perform at least 6 score points higher in science than students in education systems where only three-quarters of schools are competitive. The micro literature evaluating the impact of programs in developing countries suggests the same thing. Impact evaluations sponsored by the World Bank and others show that private schools for the poor significantly improve outcomes when those schools are supported by public funds and failing schools are forced out of the program.

Such innovative measures are only effective with strong accountability systems. Research suggests that, on average, students in countries with a standards-based external examination perform better on standardized achievement tests. In PISA countries, they perform at least 1/3 of a standard deviation better, roughly equivalent to a school-year's progress. Again, randomized control studies sponsored by the World Bank and others show that programs can be very effective, especially when schools are given more decision-making powers.

All this suggests a systems approach is required, where clear standards are formulated by central authorities and measurable outcomes are maintained, and significant decision-making power is devolved to schools through autonomy reforms and school choice. At the same time financial resources need to flow to local decision-makers, under a strong accountability framework. Above all, innovation in the market for education needs to be accompanied by a strong evaluation program, showing what works, where and for whom.

The views expressed in this article are the writer's own.

**Harry Patrinos**

# Gita Wirjawan

Chairman of Indonesia's Board of Investment Coordination (BKPM), Rep. of Indonesia.



Mr. Gita Irawan Wirjawan is Chairman of Indonesia's Investment Coordinating Board (BKPM). The Harvard-educated investment banker has held key appointments in Goldman Sachs and JPMorgan, and was senior advisor to JPMorgan for Southeast Asia. Before his appointment as BKPM's Chairman, he was most recently Founder and Chairman of Ancora Group, a Commissioner of state owned oil giant, Pertamina, and an Independent Board Director of Axiata Group Berhad.

**56.7%** of total respondents felt increased technological capability and deeper technical expertise will be their most important requirements for the future.

PricewaterhouseCoopers (PwC) International Survey Unit

Over the last 50 years, more than one third of the growth of Asia has been attributable to the demographic dividend. In the next 20 years, around 50 percent of the projected increase in world population will again be fueled by Asia.

Although large populations tend to augur well for increased productivity and for heightening economic activity, in the face of an ageing population in much of the region, the more pressing it becomes to synchronize human development programs to maintain this competitive edge, and to invest the required time and resources it takes to harness our most precious resource – human capital.

The world today abounds with youth that are eager to make a mark on this world and they tend to share unique, generation-specific traits. To begin with, the youth of today are raised in an intricately interlocking world, where the problems societies are facing have become cross-cutting in nature and far grimmer in terms of impact.

Growing up amidst an increasingly globalized world has made them more empathetic to world affairs and more embracing of international influences. They have developed a precocious understanding that the solutions we seek for this evolving world require more lateral thinking, featuring the ability to adopt an interdisciplinary, multicultural and multisectoral approach.

Because of this, more of today's youth aspire to occupy positions of influence to try to make the world a better place. They seek to inhabit areas at the intersection where business, government and civil society converge to harness ideas that have implications beyond the bottom line.

Although their numbers are highest in developed economies, bright stars are also found blazing new paths in emerging economies. There are, however, many more like them who are capable and show promise but unfortunately have not had similar educational or, by extension, professional experiences.

The question, then, is how should we intensify our focus on education and create a nurturing environment of opportunity for our future leaders to flourish?

In emerging economies that continue to struggle not just to create more, but better education, philanthropy has a greater role to play. For example, in Indonesia, philanthropic organizations are sprouting with a steadfast mission to widen Indonesian access to the best educational institutions at home and abroad. They fill the gap where a shortfall in fiscal means fail to provide a globally competitive level of education. Privately held entities can more efficiently locate talent, leverage networks and arrange funding to facilitate their intellectual development.

Leaders in emerging economies are already making greater strides towards creating a knowledgeable and skilled labor force. It would be more easily attained when both public and private resources, including philanthropy, are deployed to extend the cardinal reach of quality education.

**Gita Wirjawan**

# Rt. Hon. Raila Amolo Odinga, E.G.H., M.P.

Prime Minister, Republic of Kenya.



Raila Amolo Odinga, Prime Minister of Kenya assumed office in April 2008, heading a coalition government. He has served as a Member of Parliament for Langata since 1992, was Minister of Energy from 2001 to 2002, and was Minister of Roads, Public Works and Housing from 2003 to 2005.

61% of US respondents 'strongly agreed' that students needed increased technological capability versus 43% in China, 45.1% in Brazil and 53% in UK.

PricewaterhouseCoopers (PwC) International Survey Unit

My country, Kenya aspires to join the league of those nations that will claim their position on this planet by investing in sound education. Our development agenda is spelt out in the national policy blueprint - the Kenya Vision 2030 - which aims to singularly transform Kenya from a third world economy to a middle-income economy, by the year 2030.

The national plan envisages a complete transformation of our society by espousing, “the business unusual” motto while proactively investing in the three fundamental pillars i.e: the economic, social and political pillars of our society. Our Vision for Education is part of the social pillar and puts great premium on a truly knowledge-based and driven economy. We have undertaken to provide a holistic, wholesome education and undertaken to provide equal educational opportunities for all Kenyan children in order to nurture their extremely valuable future potential. To realize this, we have enhanced our investments in education and the government spares no efforts in creating the conducive environment for realizing enhanced literacy levels among all adult citizens.

The hall mark of our time has been the declaration and implementation of a free primary and secondary education policy with costs underwritten by the government with support from the Kenyan community and a number of international development partners. Our government is also keen to see enhanced rates of transition from primary to secondary level and then from secondary to other higher levels of education, including to universities and specifically, in the fields of technical and scientific education.

We recognise that in a highly globalised world, our government must not only ensure increased access to education, but also must address issues of quality and standards that meet international expectations. We are keen on providing Kenyan students with exemplary opportunities and experiences that today's ICTs can offer so that they become part of an international pool of dependable human resources. Our ICT initiative demands the retraining of both teachers and administrators of public schools in order to equip them with the necessary skills required for the leap into the 21st century and beyond.

We are under no illusion that this is not an expensive mission we have set for ourselves. Such is why the government has partnered with various private firms and businesses such as Intel, Microsoft and Cisco in order to establish an ICT-based curriculum that can serve the needs of industry. But this remains a gigantic task, which public resources alone cannot fund. That is why we are calling upon more partners from the private sector in the spirit of Public-Private Partnership which our government long-embraced and particularly so for the field of education to join us in this endeavour. I believe our national policies provide a conducive environment for the Private Sector to invest in education so that we can uplift Africa out of the yoke of poverty while also creating much-needed economic freedoms.

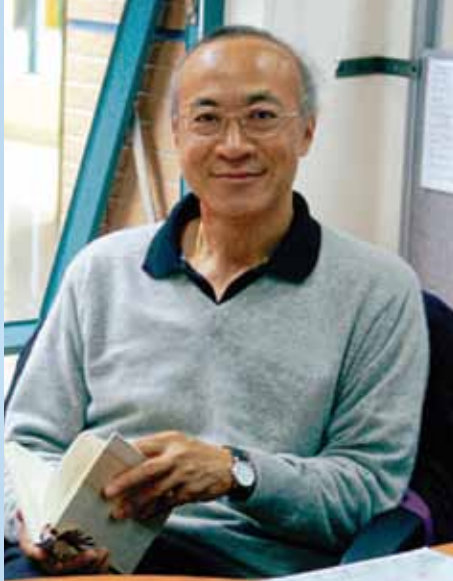
I know for a fact, that some private sector best practices in partnership with public educational institutions have led to many applauded inventions and economic opportunities in the last century. In the United Arab Emirates for example, it has been my honour to witness the enviable work done by the GEMS group in preparing the world and the next generation of leaders through education.

I want to be a partner in ensuring that such investments succeed in our country in my own life-time.

**Rt. Hon Raila A Odinga, EGH, MP**

# Professor Edmund Siu-tong Kwok

Chair Professor of the Faculty of Social Science, Hong Kong Baptist University, People's Republic of China.



Professor Edmund Siu-tong Kwok is a renowned historian, Chair Professor of the Faculty of Social Science at Hong Kong Baptist University, and in 2005 helped create the new Beijing Normal University-Hong Kong Baptist University United International College (UIC) in Mainland China, where he served as Executive Vice President until 2011.

**86%** of Chinese respondents stated that the State gives them some or a lot of opportunity for their company to input into the education system. This is versus: 52.9% in Brazil, 35.3% in the US and 54% in the UK.

PricewaterhouseCoopers (PwC) International Survey Unit

China was formerly influenced by the Soviet model of education which was centrally controlled and managed. Following reforms from the late 1970s onwards, the system has become more flexible and authority has been delegated to provincial and municipal levels.

Tertiary education has had more interactions with the international community, even though ways to develop academic freedom and institutional autonomy in the Chinese context are yet to be sought.

Pre-university education is still conditioned by both the highly competitive national matriculation examination and the rigid college space allocation system. Rote learning suffocates a lot of creativity and interest in both teaching and learning. Moreover, the one-child-per-family environment poses child development challenges in both the home and the school.

Above all, China since the beginning of the last century has been critical of its own cultural tradition. It lacks the cultural resources to help strengthen its educational foundation or respond to the challenges of the new global world.

As China rises to a leading global position, its workforce has to become more globalized. Political leaders are aware of this growing prerequisite. In the last four years, central and regional government officials pushed for innovation in education.

The National Mid and Long Term Educational Reform Policy paper issued last year attempt a wide range of reforms including the broadening of students international horizon. This finds echoes in the national policy of talent development released last year.

Political stability is essential for economic and social development. However, the recognition of and desire for increased internationalization is counteracted by the fear that the country will become less stable and manageable.

Against this complex background, educational planning becomes a challenging task. New paradigms need to be developed. Basic values of life and society need to be reassessed. The interrelationships between the individual vs. the collective, the nation vs. the international, and humanity vs. nature have to be reviewed.

Education should not just focus on technical knowledge and skills development. It should return to the basics: the education of the whole person by bringing teachers and students together to look directly into and seek solutions to these burning issues.

Following the evolutionary approach of the past, pilots and experimental projects can help design a new kind of liberal education that provides structures and pedagogic strategies capable of answering the value transformation and renaissance of education.

**Professor Edmund Siu-tong Kwok**

# Dixit Joshi

Managing Director & Co-Head of Asian Equities, Deutsche Bank, People's Republic of China.



Dixit Joshi is a Managing Director and Co-Head of Equities for Asia at Deutsche Bank, based in Hong Kong. His role includes strategic leadership of the Equity business including Research, Sales, Trading, Capital Markets and Structuring. Mr. Joshi joined Deutsche Bank in October 2010 from Barclays Capital to head the EMEA Equities business across Sales, Trading, Research and Structuring.

**78.4%** of respondents from the US felt that state education needs to improve student employability skills (e.g. collaboration and team working, business etiquette and leadership).

PricewaterhouseCoopers (PwC) International Survey Unit

The financial industry through the centuries has had one constant – change and evolution. The challenges in adapting now are no different, as demographics and wealth distribution have once again quite dramatically remapped a previous world financial order.

Our ability to deliver on the opportunities and challenges this presents needs us to enhance financial, economic, business and entrepreneurial literacy early in the education cycle.

Learning and thinking skills are a critical area requiring more focus. Too often emphasis is disproportionately placed on technical skills only. This particularly in emerging markets where previously the need for technical know-how to ensure local self-sustainability was understandable.

Academic content is valued but importantly students also need strong critical thinking and problem solving skills to allow them to make effective and innovative use of what they know in a world that is moving at an ever- accelerating rate of change.

Globalisation brings more challenges. Seamlessly offering global products to global clients in a 24/7 world challenges our traditional definitions of location, roles and organizational structure. Multi language skills (especially eastern) aid immensely and take on greater importance when building local businesses. While these are not always essential, what is important is inculcating and sensitizing graduates to the many nuances in this new workplace.

In this vein, diversity is not just a value but has economic purpose and is a demographic reality. Embedding and embracing this early with students will pay dividends. Global managers too need to harness the economic power of intellectual value add that now emanates from many new areas of the globe.

While much has been done to widen the talent pool, the limited number of quality institutions especially in new markets restricts greatly the potential workforce. As an example, recruiting from a limited set of elite institutions in India provides exceptional talent but leaves behind much untapped latent potential. Addressing this has to start at school level by broadening the range of good quality affordable school options.

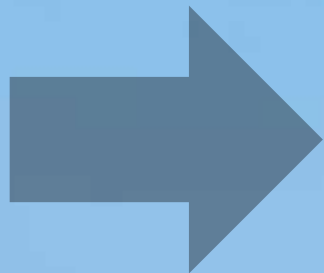
In the question of nature vs. nurture, there is no doubt that the latter is where we need to focus our efforts.

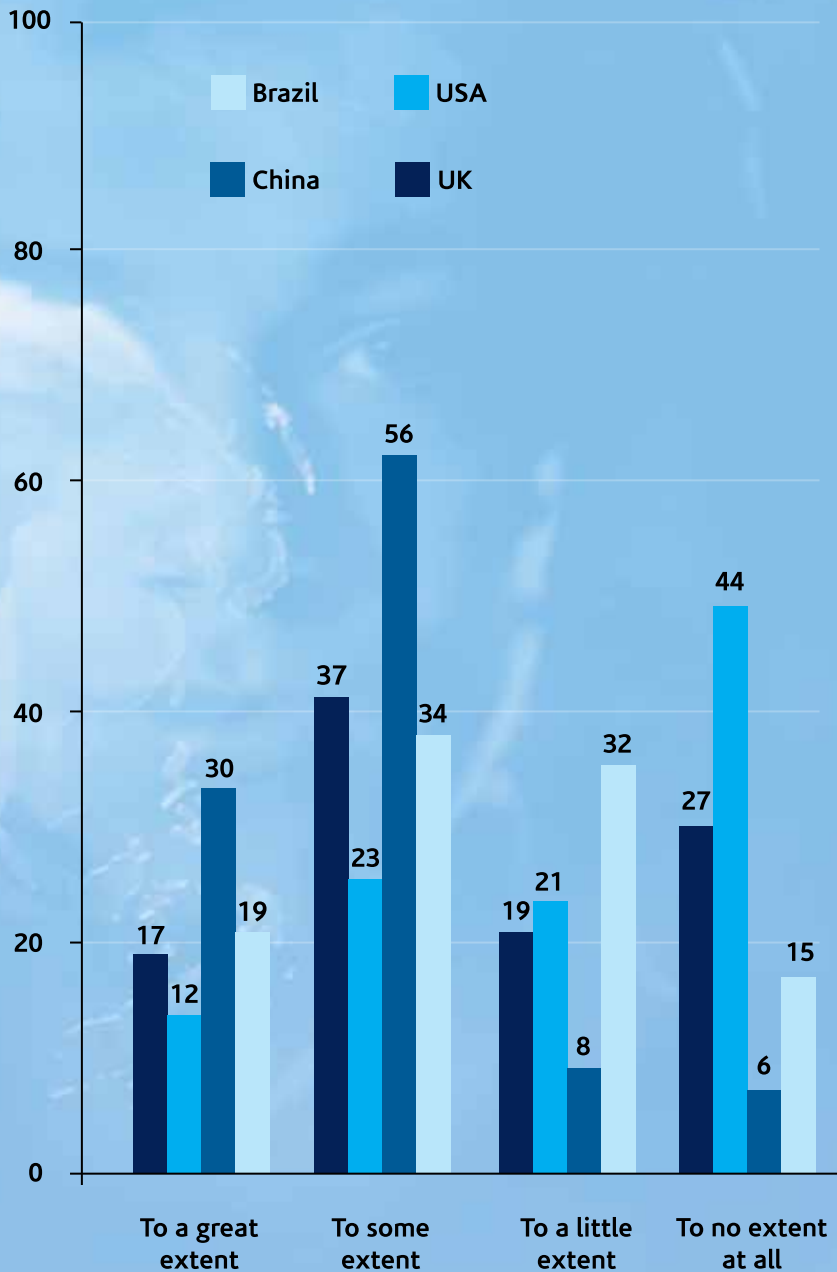
The truly successful managers and leaders of the next century will be determined not by what they know but by how fast they can learn. They will be characterized not by how much information they have access to but rather how quickly they differentiate relevant from the less - relevant in the fog of data. They will be judged by the speed with which they are able to adapt their organizations to changing global conditions.

Both the private and public sector have much more work here to do to create a wide enough pool of talent with these skills.

**Dixit Joshi**

To what extent  
does the  
Government or  
State education  
system offer  
opportunities for  
your company  
to input into the  
design or reform  
of the education  
system?





# Shaun Johnson

Chief Executive, The Mandela Rhodes Foundation, Republic of South Africa.



Shaun Johnson is the founding Chief Executive of The Mandela Rhodes Foundation in Cape Town, which is dedicated to building leadership excellence in Africa. In 2006, he also served as Chief Executive of the Nelson Mandela Foundation in Johannesburg.

**44.1%** of US respondents said that there is no opportunity to input into the state education system.

PricewaterhouseCoopers (PwC) International Survey Unit

Down here on the southern tip of Africa, we are privileged to be part of a small group working on a very big intervention, in names of the 19th and 20th centuries, with the aim of helping to deliver exceptional leadership in this 21st century.

We are not a government, and so we cannot influence “today’s education systems to deliver tomorrow’s global workforce”. But as a non-governmental organisation dedicated to seeking out and nurturing new generations of ethical, excellent leaders in Africa in all fields, we believe we can contribute to that goal.

Not least, we think that if we can demonstrate that our model “works”, then the opportunities for replication on our continent and indeed around the world, are limitless.

In the words of our iconic patron, Mr Nelson Mandela: “The central purpose of The Mandela Rhodes Foundation is to build exceptional leadership capacity in Africa. The bringing together of these two names represents a symbolic moment in the closing of the historic circle; drawing together the legacies of reconciliation and leadership and those of entrepreneurship and education.

Already, the Mandela Rhodes Scholarships are changing the lives of young Africans, who will play vital roles in the future of the continent.”

We are harnessing history, in all its imperfection, for the benefit of current and future generations. We want to help new young Mandelas to their feet. We want people who, at a young age, are helped to think about the ethics of leadership, and not just leadership as power or patronage.

All our Mandela Rhodes Scholars are ambitious in terms of making a difference, but they are not the kind of cynical leaders who are in it only for the money and the leverage.

In the eyeline of history we are a mere blink. We have been going for only eight years, and we have elected 150 Mandela Rhodes Scholars. But tall trees can grow from small seeds, and already the multiplier effect of our work can be seen in the testimonies of the Mandela Rhodes Scholars themselves, to be found at [www.mandelarhodes.org](http://www.mandelarhodes.org)

One of the crucial challenges now facing us is to align, explicitly, our work with that being done in the education systems at high school level of South Africa and further afield on the African continent.

Perhaps this ancient and complex question – of making congruent, in appropriate ways, governmental and non-governmental work – could find its way on to the discussion agenda of the World Economic Forum?

**Shaun Johnson**

# Rajat M. Nag

Managing Director General, Asian Development Bank, Republic of the Philippines.



Mr. Rajat M. Nag is the Managing Director General of the ADB. He has been with the institution for more than two decades and assumed his current position in December 2006. With broad experience across Asia, Mr. Nag plays a critical role in providing strategic and operational direction to ADB, so that it achieves its mission of helping its developing member countries reduce poverty and improve the quality of life of their people. He also oversees the risk management operations of ADB.

**41%**  
41% of employers surveyed in Asia (compared to 28% in 2006) reported difficulties in filling positions due to a lack of suitable talent in their markets.

Large investments over the past decade to improve the quantity and quality of education have helped Asia to grow and diversify. However, unemployment remains a serious concern, as does the skills mismatch in the labor force. The rise of Asia is being accompanied by a 'skilling spiral' that requires higher order capacities.

What are the headline trends that Asia's education systems need to tackle today in order to be relevant and responsive to the workforce needs of tomorrow?

**Quantum Leap in Quality.** While access to education has grown tremendously, quality deficits reflected in high drop-out and poor completion rates, along with below par learning, diminish returns from education. Educational institutions need to uphold minimum standards, universalize minimum service delivery and ensure systems of accreditation against relevant benchmarks to strengthen quality assurance.

**Diversified Knowledge Domains.** The market increasingly demands higher and diversified competencies to serve newer occupations. The 2011 Manpower Global Talent Mismatch survey points out that 41% of employers surveyed in Asia (compared to 28% in 2006) reported difficulties in filling positions due to a lack of suitable talent in their markets. This compares to a global average of 31%. There is need for a more robust and continuous process of renewal of courses and their contents, drawing on business and employer needs.

**Metrics that Matter.** The modernizing workplace requires not just technical capabilities but also problem solving and soft skills. However, current measuring and testing of competencies leaves a lot to be desired. Only 12 countries in Asia participated in PISA 2009, the Programme of International Student Assessment. More extensive use of standardized testing is needed and this should be complemented with innovative methods to measure other non-cognitive skills.

**Life Long Learning.** A key feature of the rapid transformation of the market place is that employers prefer a workforce that is committed to, and capable of, continuous improvement. Education and training at the beginning of a career is no longer sufficient. Continued skill upgrades for workers are essential for them to stay relevant and competent.

**Inspiring the Innovators of Tomorrow.** Technological advancement and productivity increases are driven by the ability to invent, adapt and modernize. Education systems need to significantly ramp up investments in STEM education Science, Technology, Engineering and Mathematics which will be the building blocks of industrial dynamism and innovation.

For these transformational developments to take root, active partnerships between public, private and non-profit sectors are crucial for strengthening educational institutions and systems to meet the challenges of tomorrow. The future will be with us before we know it.

**Rajat M. Nag**

# Dr. Anthony Seldon

Master of Wellington College, United Kingdom.



Dr Anthony Seldon is a political historian and commentator on British political leadership as well as on education and contemporary Britain. He is also Master (headmaster) of Wellington College, one of the country's most famous and historic independent schools and was co-founder and first Director of the Institute of Contemporary British History. He is also author or editor of some 25 books.

**40%**  
40% of UK respondents felt basic skills are the most important area the state needs to focus on improving.

PricewaterhouseCoopers (PwC) International Survey Unit

In order to produce world leaders and thinkers, an education system for the 21st century must be quite different in nature from that of previous generations. It must advocate tolerance and foster inter-cultural awareness among young people. It must focus on critical thinking and problem solving through new methods of teaching.

These are based far more on student-centred inquiry and acquiring knowledge in the classroom through student initiated question and answer. It must provide exposure to a variety of viewpoints. It must focus on responsible citizenship, provide an understanding of issues in a global context and an awareness of the similarities and differences among cultures. It must realise and acknowledge that separate disciplines are a thing of the past, that what is important now is to see the inter-relatedness between various disciplines and issues. It must inspire and motivate, uniting schools, teachers and students in a common purpose. Communication skills are vital. Risk-taking is essential.

I write this while absorbing the aftermath and effects of the riots in London and other European cities. Scenes of devastation and near anarchy depress and anguish. Questions arise thick and fast.

Why are so many of today's youth so disillusioned, disaffected and dispossessed? How has society reached this point? How can we re-establish acceptable modes of behaviour? What can we do to improve things?

We must act now if we are to fix our society and provide our young people with the skills they need to become responsible and successful members of the global community. We need to realise that children are not born bad, they will blossom with the right kind of nurture and support.

We must:

- Provide more and appropriately channelled funding
- Encourage private investment to fill any funding gaps that exist due to government cutbacks
- Re-establish and expand youth groups – traditional, old-fashioned ones like the boy scouts and the girl guides
- Make the schools the focal point of the local community
- Make specific plans to fill some of the summer holidays
- Revolutionise educational services by tailoring them towards the community through community service, charitable work and field trips
- Provide young people with a stake in their own future
- Devise programmes that interest, motivate and challenge young people
- Encourage if possible every young person to spend some time in another country

These are global challenges and we can all develop our education systems by analysing what is best in the world of education.

**Dr. Anthony Seldon**

# Amadou Diallo

Chief Executive Officer, Africa & South Asia Pacific DHL Global Forwarding, Singapore.



Amadou Diallo is Chief Executive Officer of DHL Global Forwarding for Africa & South Asia Pacific, and is a member of the DHL Global Forwarding Freight Executive Board. Based at the regional headquarters in Singapore, he is responsible for the company's performance and long-term strategic developments across Sub-Saharan Africa, South East Asia, South Asia and South Pacific.

**50%** of Chinese respondents 'strongly agreed' that students needed an increased aptitude for innovation versus 36.3% in US, 32.4% in Brazil and 28% in the UK.

PricewaterhouseCoopers (PwC) International Survey Unit

Born and bred in Senegal, it's easy to appreciate the impact education can have on the development of a country's people. In fact, economic history has shown us that the most prosperous countries are those whose entire population has been enfranchised by an extensive, comprehensive and inclusive education system.

It is only such education systems that equip people with the right skills and assets to contribute to their countries' economic growth and development across all sectors – from transportation to technology, healthcare to logistics. With logistics wielding the power to enable trade nationally, regionally and globally, it is crucial that we take a closer look at the education that is available to support the growth and development of this sector in particular.

To better understand future challenges and opportunities that await the world's logistics industry, Deutsche Post DHL conducted a study entitled "Delivering Tomorrow – Customer needs in 2020 and beyond – A Global Delphi Study" in 2009.

The study concluded that the logistics industry will be challenged by several macro-economic issues and trends, namely, globalization and regionalization, outsourcing, digitization of the supply chain, supplier consolidation, high oil prices and oil scarcity, urbanization and sustainability.

There is no doubt, therefore, that the world's logistics industry will require more well-trained logistics experts and well-educated ICT engineers to address and overcome these challenges. In essence, there is a need for developing countries especially, to expediently and increasingly channel their resources towards the development of the logistics sector.

Future managers and leaders in logistics require today to be trained in global thinking through international exposure. This will help them understand and address the different demands of different cultures. Engineers of transportation solutions need today to be equipped with the right technical skill sets and become familiar with the different languages of business. This will help them meet tomorrow's ever-changing international demands.

Tertiary-level programs with a focus on logistics, however, are unfortunately, not commonplace in today's education systems. There is therefore a need on the part of today's emerging economies for a collective, dedicated focus on developing education in logistics to create the shippers, forwarders and logisticians of tomorrow. And I'm not just talking about education and training in hard skills, but soft skills too, like organizational management and leadership.

There is a need today, for commitment to marry technological innovation with people development for the economies of tomorrow.

**Amadou Diallo**

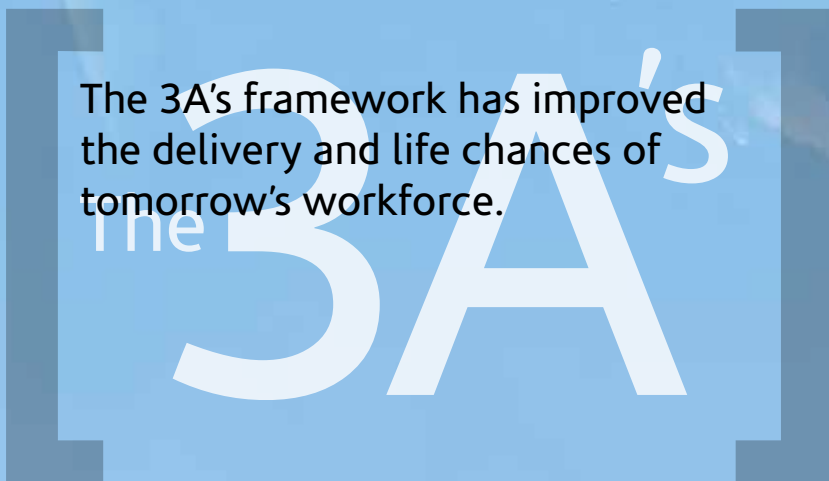
# Professor Sonia Blandford

National Director, Achievement for All, Department for Education, UK.



Sonia Blandford is currently Professor of Educational Leadership and Innovation (University of Warwick); National Director Achievement for All (Department of Education / National College); Adviser to CEO (Teach First), prior to which she was Director of Research and Development at Teach First, following almost six years as Pro-Vice Chancellor and Dean of Education at Canterbury Christ Church University.

The 3A's framework has improved  
the delivery and life chances of  
tomorrow's workforce.



The heartbeat of educational systems throughout the globe is generated by learners; supported by educational leaders, thinkers, teachers, students, parents/carers and support professionals whose job it is to engage in educational practice on a daily basis.

Collectively as educators, we 'borrow' theories and practice from many sources. These create principles that frame learning; this helps us to build our repertoire of high impact education systems that will be effective in delivering tomorrow's workforce.

Whilst scandalous to some, education should be made simple, celebrating the practical application of that which works, framed by a model of aspiration, access and achievement so that we can understand, share and engage in learning, irrespective of the source.

Aspiration, Access and Achievement (3A's) are effective principles demonstrated by the high impact on pupil learning of the initial teacher training and leadership and continuing professional programmes, Teach First and Achievement for All, now influencing system change in Lithuania, Latvia, Norway and China.

The 3A's framework has emerged from practice in the most challenging settings in England - primary, secondary, special and pupil referral units.

Aspiration encompasses the expectations, beliefs, understanding and capacity of learners to engage fully and positively in the learning process. The mind-set that underpins all educational endeavours, whereby practitioners, carers and learners have a shared understanding of that which can be achieved through the setting of goals (short, medium and long term) culminating in the raising of aspirations.

Access has a two-fold meaning; the first is the removal of barriers preventing access to learning, these can be broad or specific, e.g. low expectations, physiological, social, environmental, educational and more; the second is the provision of education, compulsory, further and higher for those who might previously had not perceived education as having any significance or value in their lives.

Achievement is a term that has been devalued in many countries by the political drive to 'count' examination results as an indicator of educational success/achievement/attainment. Whilst it is essential that the workforce is literate and numerate, knowing what achievement is, having the self-efficacy to achieve and recognising when this happens is fundamental to learning. Achievement lies within and extends beyond exams, social, artistic, musical, sporting and leadership endeavours all count towards the achievement for all. It is the breadth of success that will facilitate learning, the application of knowledge to work and life.

The 3A's framework has improved the delivery and life chances of tomorrow's workforce in Teach First and Achievement for All schools. High impact practice continues to embrace that which works for those that matter, enabling parents, leaders, teachers and support professional to sustain the heartbeat of the learner.

**Professor Sonia Blandford**



## About GEMS Education Solutions

GEMS Education Solutions is a division of GEMS Education which has been in the education sector for over 50 years.

It harnesses the insights and expertise gained from the largest global network of International schools to improve standards in public education provision worldwide.

GEMS Education Solutions comprises a team of world renowned educators and consultants to ensure it delivers global best practice. These include leaders who have excelled in education reform, curriculum development, teaching and learning practices as well as program design and evaluation.

It supports the development and improvement of standards in public education provision worldwide. Our teams of experienced professionals partner with governments to deliver efficient, high quality public education to meet the expectations of aspiring families and communities around the world.

We focus on the specific needs of school systems in emerging as well as developed economies. We have a detailed understanding of the common issues facing public education and are aware of the importance of collaboration and consultation in driving change in public services.

GEMS Education Solutions has experience in advising and supporting Governments which are eager to implement school reform.

Governments are taken through a staged program of reform beginning with consultation and diagnostics and onto planning and coaching, observation and action planning, and ultimately to a focus on sustaining structures and capacity.



## About GEMS Education

GEMS Education employs over 10,000 education professionals from 62 countries to educate over 100,000 students from 140 countries.

Our school model is unique in its curriculum diversity and tiered tuition fee model making private education more accessible to the broader community. GEMS provides education to students in Europe, Africa, North America, Asia and the Middle East.

Over the last three years alone, GEMS students have been accepted into 567 universities in 36 countries. GEMS students have gone to 12 out of the top 15 universities in the world and 36 of the top 50 universities in the U.S.

In the last ten years alone, GEMS students have won over 300 international and regional awards for academics, sports and the arts. Furthermore, all our schools significantly exceed all national and international benchmarks in student outcomes.

GEMS has strategic partnerships with the Clinton Global Initiative, the Tony Blair Faith Foundation, the World Economic Forum and Microsoft.

The Varkey GEMS Foundation is a not-for-profit organization, established to improve the standards of education for underprivileged children. The Foundation is the philanthropic arm of GEMS Education.

We, GEMS Education, seek to leverage our experience through our educational professionals, and within the GEMS community, to raise the standards of education for the world's poorest children to ensure that every child has a chance to prosper.

We are proud to say that over the past 51 years, GEMS students, teaching staff and corporate staff have raised over \$US 50 million for charities around the world.

For every student enrolled at a GEMS School one hundred underprivileged children will be impacted. The Foundations aim is to support 10 million children globally.

We are humbled and honored to have former U.S. President Bill Clinton as the honorary Chair of the Varkey GEMS Foundation.

