

Spotlight

SKILLS: A VITAL INVESTMENT

Anne Milton / Shakira Martin / Brian Cox



Spotlight



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Missing out on the best possible opportunity



There are just over 450,000 teachers in the UK. According to the National Audit Office, 34,910 of them left teaching last year for reasons other than retirement. Thousands more retired, many of them early; more than 40 per cent of teachers retire before age 60. Overall, the number of teachers in UK secondary schools dropped by five per cent between 2010 and 2016, while the UK population rose by three million. Of all the teaching positions available in secondary schools in 2016, the NAO found that less than half had been filled by people who had “the experience and expertise required” for the job.

New data from the Health and Safety Executive and DfE help to explain the retention and recruitment crisis in British education. A report issued last week by the HSE found teaching to be more than twice as stressful as the average job, while a recent DfE survey found that 75 per cent of teachers leave due to workload. Classroom teachers work, on average, more than 54 hours per week. The DfE is also spending less on recruiting or retaining teachers; the NAO found that in 2013/14 the government spent £555m on training and supporting new teachers, while in 2016/17 it spent only £35.7m on teacher development and retention. Of this, just £91,000 was aimed at improving teacher retention across the UK.

The results of Britain’s failure to invest in its education system are already apparent. In 2015, the UK placed 20th in the OECD for “basic skills” in maths, science and reading. Literacy and numeracy are now, for the first time, lower in the UK’s school leavers than they are in its retirees.

If history is, as H.G. Wells wrote, “a race between education and catastrophe”, then policymakers and educators in the UK will need new ideas and investment, as soon as possible, to give the former a chance over the latter.

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Pride of placements: how experience informs insight

Anne Milton, Minister of State for Skills and Apprenticeships, explains how employer input and practical experience are crucial to the new T-level courses

One of the best parts of my role as Minister of State for Skills and Apprenticeships is having the chance to meet talented young people across the country. Last month, I was privileged to see some of our nation's apprentices and young people putting their skills to action as they competed at WorldSkills Abu Dhabi 2017. The competition was tough, pitting Team UK against competitors from 65 nations in 30 skills categories, including aircraft maintenance, mobile robotics, engineering, patisserie cooking and landscape gardening.

This is the most prestigious and high-profile event of its kind in the world, and I can't even begin to describe the immense pressure our competitors were under. Not only were they competing against the most talented young people in their field, their every move was scrutinised by world-leading industry experts and they competed non-stop over three to four days.

I am delighted to say that Team UK were more than up to the task, winning seven medals and finishing 11th overall. If their performance was anything to go



by then we should be excited about what the youth of today can bring to our country. I want to congratulate each and every member of our team for their incredible dedication and effort. They have served as ambassadors for UK skills and their achievements will serve as inspiration for their peers taking up technical qualifications and apprenticeships up and down the country.

But there is a wider, important message here – their success demonstrates how getting skills right can change lives. It is absolutely right that this is sitting front and centre of all the government wants to achieve. But we can only achieve this through genuine partnership with business and providers.

As the Minister for Skills in England, I want to make sure that our country thrives and prospers, with the highly skilled individuals that our businesses need to give them their competitive advantage in a fiercely challenging world marketplace. I also want all young people to go as far as their talents can take them, whether they take an academic path or a technical one.

Central to this is putting technical



£500m every year will be invested into the new T-levels

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education firmly on a par with other routes to employment.

We know that the route through school and on to university is clear and well respected. Our reforms to GCSE and A-levels will make sure that this path remains world class. However, we have previously seen too many courses of varying quality and value for those who want to follow a different path into employment. A confusion of qualifications makes it harder for learners to find the right course or be confident they will learn what they need to get a good job.

We have already taken the first steps to address this – with major reforms to the quality of apprenticeships; doubling investment to £2.5bn by 2019-20 and with over 1m people starting an apprenticeship since May 2015 – supporting our aim to achieve 3m high-quality apprenticeships starts by 2020. But this is only the beginning.

Our new T-levels, announced earlier this month, will be the next major step in finally addressing this imbalance. I have announced that the first T-levels to be taught in 2020 will be Digital,

Construction, and Education and Childcare. They will be on a par with Britain's world-class A-levels, with the full set of T-levels to be up and running by 2022.

T-levels will be new prestigious courses, developed with the help of top firms like Rolls Royce, IBM and Fujitsu, Lloyds, Morgan Sindall, Skanska and Morphy Richards to name a few. Building on the reforms to apprenticeships, they represent a real employer-led approach to making sure we get skills right.

T-levels are about providing the skills our high-flying businesses need. Equally, they put young people on a clear path to acquiring the skills that employers are crying out for. Every student taking a T-level will not only undertake a rigorous programme of study, but also a high-quality work placement to put what they have learnt in the classroom into practice. This will give learners an invaluable experience of industry and the real transferable skills that employers need.

It is important to me that T-levels are seen by students as a realistic route into employment. We will be investing £500m per year into T-levels, once all the courses are up and running, to make sure this happens.

We will be publishing an Industrial Strategy which will set out how we will tackle regional disparities and drive local growth. This will help to rebalance the economy on a regional level across the country. But there is more to do. I am calling on employers and businesses to get involved. Skills reform is challenging and we will need your help to get it right.

Our prestigious new Institutes of Technology will allow employers to play a key role in delivering the skills our economy will need as we prepare to leave the European Union. We need look no further than the brilliance of Team UK at the WorldSkills competition to understand what is possible through skills and apprenticeships. They competed on the world stage and have exciting futures ahead of them. By building one team for skills with employers and educators we can ensure the same is true for all of our young people. If you are a parent, teacher or an employer then grasp this opportunity with both hands.

Testing is getting in the way of teaching



Industry should take more responsibility in informing academia, according to Professor Brian Cox. He talked to *Spotlight* about the importance of hands-on learning

Assessments, audits, targets or taking stock – these are all dirty terms as far as Professor Brian Cox is concerned. The distinguished author and co-author of 950 scientific publications, former keyboard player for D:Ream and Dare, popular BBC presenter, and the recipient of a D-grade A-level in mathematics, thinks that “bureaucracy” is undermining the relationship between academia and the very industries it aims to serve.

Speaking to *Spotlight* and others at the IP Expo 2017 at the ExCel Centre in east London, the 49-year-old warned that the United Kingdom’s chronic skills gap, particularly in science, technology, engineering and mathematics (STEM), is in part down to a lack of collaboration between schools, universities, businesses and, crucially, government. Continuous testing, either of students or institutions themselves, Cox said, runs the risk of regimenting learning as part of an ultra-restricted curriculum, rather than meeting real-life needs.

He explained: “Ultimately, it is the government’s responsibility to try and develop policies that encourage and make it easy for institutions to overlap with business and industry. I have a real dislike for measuring for the sake of measuring. I once told David Willetts [former Minister of State for Universities and Science] a surefire way of increasing the productivity of academics by five per cent – abolish assessments entirely.”

Cox said he was sceptical that consistent testing drove an improvement in standards and recoiled at the idea of using children or indeed teachers as measurement probes. “All these things that supposedly make you focus – papers and tests – are really preventing the opportunity for academics to focus on their actual work.”

In the UK, science was included in the Key Stage 2 SATs tests until 2009, when they were scrapped. Since then, teacher assessments in science have been reported instead. In 2016, 81 per cent of 10 to 11-year-old pupils in the UK reached



Regional inconsistencies, Cox continued, have played a role in creating an “information gap” in some areas of the UK. He advised that the bottlenecks of investment in London and the south-east, and only certain parts of London and the south-east at that, means that even where industries are spread, the talent pool from which they are hiring is not. Cumbria’s nuclear industry, he pointed out, seldom recruits from Cumbria, and Cox linked this to an awareness problem. “We see it especially in families where the parents might not have been to university. Some of [the solution] is to do with breaking down those barriers of perception. It’s about how the institutions, industries and businesses behave – and how they present themselves. It’s an uneven spread; there’s no lack of ability, but there is a lack of a sense of possibility. Industry and business need to develop an active relationship with the schools to get people interested.

“I was in a school in Cumbria recently, right in the heart of one of the high-end tech industries of the world – that’s the nuclear industry. The nuclear industry wants to put effort in trying to extract people and trying to get local children in schools to progress to the highest levels of that industry. It’s true of other areas too – like Tower Hamlets in east London. You can sit in a school in Tower Hamlets and see the city of London, but it’s almost like another country and very few of those families are in connection with the capital.”

Without the steady flow of skilled migrant workers from the European Union, it’s been argued that the UK’s decision to leave the bloc via Brexit has injected fresh impetus to address the UK’s STEM skills deficit. Does Cox agree? “Perhaps. It would be nice, but it goes well beyond Brexit. You’re talking about the next decade of further education, not the year-and-a-half timescale we’ve been told. We need long-term investment in home talent.”
Reporting by Rohan Banerjee and Oscar Williams.



“I have a real dislike for measuring for the sake of measuring”

the expected standard in science in teacher assessments, but Cox questioned the merits of rote learning compared to practical experiments.

In viewing education in isolation – in terms of its own budget, curriculum and attainment metrics – Cox suggested that the UK government is missing a glorious chance to start recognising business and industry demands sooner. Feeding the issues faced in science and technology into the skills pipeline at entry level, he argued, would improve uptake and enthusiasm among youngsters. Cox added: “In universities, particularly, where the academic time there is so restricted and so costly, the average space or time an academic has to go and do something else is limited. We should ask if there is anything you can do to measure the success of a school or university outside of a classroom or lecture theatre. We can’t afford to let bureaucracy stifle the interaction between universities, schools and businesses.”

Even small businesses can have big ideas

Digital skills have become a necessity for businesses and wider society, writes **Nick Williams**, managing director of consumer and commercial digital at Lloyds Banking Group



The digitalisation of business is being driven by demand. As technologies advance, larger firms have been quick to jump on their ability to enhance products and services in order to satisfy a modern culture craving convenience, all the while improving the efficiency of their own operation. Some smaller firms and charities, however, are at a risk of being left behind by this trend. The heightened expectations of consumers – who want minimal bureaucracy, a reduced emphasis on physical documents and to have their transactions done in real time – have meant that larger, more digitally aware companies have garnered greater engagement, and are reaping the benefits as a result.

Smaller firms' hesitation to digitalise is in part down to a mindset problem. The Lloyds Bank Business Digital Index for 2017 – the fourth report of its kind – found that 1.6m small businesses and

100,000 charities in the United Kingdom are still in the “digital slow lane”, with workforces lacking basic digital capabilities. Worryingly, the Index identified 118,000 organisations in the UK that aren't using the internet at all, believing an online presence to be “irrelevant”. This could not be further from the truth. The internet represents an unbridled opportunity for growth. There are more devices connected to the internet than there are people in the world and a business which fails to appreciate this is willingly denying itself access to many more customers.

Beyond obvious advantages to individual businesses or charities themselves, the drive to digitalise more, and eventually all UK organisations, should be viewed as a priority for the wider economy. Competition begets improvement and will raise the standards of UK business and charity delivery across the board. It is better for consumers to be presented with a choice

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of digitally capable firms, so they can enhance their expectations, and it's good for small businesses to ensure that they aren't left behind by changing times.

According to the Index, the most digitally capable small businesses are more than twice as likely to report an increase in turnover as the least digital; and digitally capable charities are 50 per cent more likely to report an increase in funding. The most digital organisations are also saving the most time – around one day each week – with

The internet represents an opportunity for growth

less labour-intensive schedules allowing for a happier and healthier staff.

In association with The Tech Partnership, Lloyds Banking Group has compiled the Basic Digital Skills measure which is designed to gauge an organisation's technical know-how. For businesses and charities to have full Basic Digital Skills, they need to demonstrate at least one skill in managing information, transacting, communicating online and using digital tools to problem solve and create content, such as adverts. Firms who adopt all of these practices stand to see an upturn in productivity thanks to cost savings, trading overseas and bringing in new customers. Digital credibility, for example in cyber security and data protection, meanwhile, can inspire confidence which helps to retain the support of existing customers and potentially attract new stakeholders.

Outside of the business and charity sectors, digital empowerment also represents an opportunity to enact social change by giving people the skills they need to improve their wellbeing and personal finances. Lloyds has found that 11.5m people in the UK are still not making the most of the internet, even with something as elementary as shopping online. Age is a contributing factor here, with only 49 per cent of those aged 65 or above having Basic Digital Skills, compared to 97 per cent of 15 to 24-year-olds. People can save money by being online, for example through discount or cashback websites, or through managing their accounts and avoiding overdraft fees thanks to advisory services.

Through a range of cross-sector enterprises with policymakers and business professionals, we have committed to leading from the front when it comes to digitalising society. To this end, together with the Good Things Foundation, Lloyds has devised a digital inclusion programme that will impact on supporting people with low

financial and digital literacy. We also lead the Digital Skills Partnerships work stream for small businesses and charities, tasked with delivering the government's aim to make digital skills accessible for everyone. Karen Bradley, the secretary of state for digital, culture, media and sport, noted in her comments on the Lloyds Bank Business Digital Index for 2017: "The government will be working even more closely with individuals and organisations to make sure the benefits and opportunities of digital are spread across the country. I'm pleased Lloyds Banking Group has committed to offer face-to-face training to an additional 2.5m individuals, small businesses and charities by 2020, and welcome the insight in this report. Alongside our new Digital Skills Partnership, this will help make sure everyone is equipped with the skills they need to share in the benefits from the digital revolution."

Ultimately, to view digital skills as purely the preserve of the tech or IT sectors would be missing the point. Digitalisation is a necessity, not a possibility, and permeating every aspect of society. It is only fitting, then, that businesses and charities should keep abreast of technological development, training and skilling their staff accordingly. The immediate benefits are clear – in terms of productivity and cost-cutting – but developing digital talent is required to meet business needs and also to maintain low levels of unemployment in the UK. A study by Manchester Digital last year found that 20 per cent of firms have turned down work because they can't find the right staff, and 18 per cent have outsourced work to outside of the UK due to a lack of digital skills. As an overarching social and economic objective, then, digital empowerment must be taken seriously. It is not enough to pat ourselves on the back for what we've already achieved; we must do more.

Languages are young people's ticket to a world of opportunities



Communication skills will always be key, according to **Baroness Coussins**, co-chair of the APPG on modern languages

Willy Brandt, the former German chancellor, once said: “If I’m selling to you, I speak your language, but if I’m buying, *dann müssen Sie Deutsch sprechen*.” The government today would be wise to listen to this advice and act on it quickly if they are serious about becoming a leader in global free trade post-Brexit. It’s a myth that everyone around the world speaks English and companies are finding to their cost that building export growth is up against a big barrier in the form of the United Kingdom’s languages deficit. Why, then, did the recent government green paper on Industrial Strategy make no mention of language skills?

There is strong evidence to show that the UK’s lack of language skills – and the consequent under-exploitation of language skills by UK businesses – has held back efforts to boost exports and attract inward investment. Research

by Cardiff University Business School suggests that the economy is losing out on £4.8bn every year, or 3.5 per cent of GDP, in lost contracts because of a lack of language skills in the workplace. If you can’t read the initial tender documents, you can’t bid for the contract – and they are by no means always written in English. Research by the British Chambers of Commerce showed that 96 per cent of English exporters had no foreign language ability for the markets they serve and the largest language deficits were for the fastest growing markets. Over three-quarters of the companies responding to the survey reckoned they had missed or lost business because of this.

In contrast, companies which do invest in language skills, through a mixture of recruitment, training and strategic targeting by language, are succeeding in increasing the ratio of



We are doing a disservice to young people

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exports to sales by 37 per cent.

The establishment of the great.gov.uk website provides an important opportunity for the government to disseminate advice to businesses seeking to develop markets in new countries, but this has not been sufficiently promoted. Under the former UKTI, one-to-one advice on language and cultural issues was provided – to 1,170 companies in one region alone in 2015-16. But this service has now ceased in favour of regional contracts with the Department for International Trade and it is not clear whether local businesses will still be able to access guidance on overcoming language and cultural barriers to trade.

It's not just a matter of business growth and competitiveness. We are also doing a disservice to young people in a global labour market if we do not equip them with a vital skill set of languages to improve their employability and

mobility. Over 70 per cent of UK employers say they aren't happy with the foreign language skills of our school leavers or graduates and are forced increasingly to recruit from overseas to meet their needs. The payoff for new graduates can be illustrated by a 2014 study that showed that those who had spent a year abroad on the Erasmus Programme as part of their degree course, acquiring language skills – and the inter-cultural understanding and international mindset that goes with them – had an unemployment rate after graduating 23 per cent lower than non-mobile students.

Sadly, only nine per cent of British 15-year olds are competent in a first foreign language beyond a very basic level – and that compares to 42 per cent of teenagers across 14 other European countries. Granted, the uptake of language GCSEs has risen since the

The language industry across the EU is worth over €20bn

introduction of the English Baccalaureate (having been slashed in half following the disastrous decision in 2004 to make languages optional after the age of 14); but A-levels are in freefall with the consequent knock-on effect of a sizeable drop in the numbers applying to do languages at university. Since 2000, over 50 universities have scrapped some or all of their modern language degree courses.

We need a national languages recovery programme to rebuild any credible level of UK foreign language competence. It needs to cover all ages and stages of education, from the primary school (where it is now a mandatory part of the National Curriculum for all pupils aged seven upwards to study a foreign language, but where the teacher shortage makes this a pipe dream in many schools), through to postgraduate research (where, according to the British Academy, access to major funding as part of international consortia is seriously undermined because too few of our postgrads can work in more than one language).

It also needs to encompass technical education and to address regional inequalities. The UK has regional weaknesses in participation and attainment in foreign languages, which correlate with regions of poor productivity and low skill levels. In the North-East in 2016, only 43 per cent of pupils sat a GCSE in a language, compared to 65 per cent in inner London and this gap has been widening year on year.

The government should also do more to build on the linguistic strengths we do have as a nation. Over a million school pupils are bilingual and speak languages including Arabic, Mandarin, Russian, Turkish, Farsi and many others, which hardly feature in mainstream school curricula, yet are some of the languages spoken in the world's fastest-growing emerging markets. Too often these children are seen as an educational problem rather than an educational asset. Their languages should be acknowledged, nurtured and accredited, with a view to helping

them utilise their skills, having more choices of employment and making a critical difference to Britain's economic future in the long term.

The green paper pays scant attention to specific sectors of the economy. Tourism, transport and the creative industries, for example, are mentioned only briefly, and professional and public services not at all. These are all areas where there is a strong need for language skills, in addition to manufacturing and technology. There is also a good case to be made for a "sector deal" for the language industry itself – not just teachers, but also interpreters, translators, people who write teaching materials such as textbooks, CDs and websites, do subtitling and dubbing for films and TV and much, much more. The language industry across the EU is estimated to be worth over €20bn and has a very high growth rate. As an English-speaking nation, we would be well placed to take strategic advantage of this expected further growth, not only in Europe but worldwide.

It is vital to communicate with prospective consumers in their own language. One recent study of ten countries showed that 60 per cent of consumers rarely or never make online purchases from English-language websites. Prospective inward investors don't want a monolingual environment either. Over a quarter of senior executives from top European companies rated access to multiple language skills as "absolutely essential" when considering where to locate their business. This has been a significant driver of London's economic success. Scotland recently lost investment in jobs worth £4m per annum by a major petrochemical company because of concerns about their inability to recruit staff with the necessary language skills.

The government is right to be ambitious in encouraging trade and inward investment. But it needs to remember the words of Willy Brandt if it is to succeed. Complacency about English as the so-called lingua franca will not wash in the 21st century.

How digital skills can become more democratic

The barriers to business and entrepreneurship are being broken down by technology, says **Heika Fu**, head of products, digital skills, Tech City UK

The internet has opened up a raft of opportunities to start-ups and small to medium-sized enterprises (SMEs); with alternative finance such as crowdfunding helping to get projects off the ground, and social media's pervasiveness enhancing companies' marketing reach like never before. It should be clear, then, that the firms with the most digitally savvy staff stand to profit most from the fourth industrial revolution. Tangible benefits of digitalisation include savings on space – data storage can be centralised and paperless on cloud systems – and time – less labour-intensive schedules or working from home can help keep employees happy and healthy.

In the quest to create a more digitally astute workforce, ideas of reskilling and upskilling have been climbing up the agendas of governments and businesses alike in recent years. With the United Kingdom's unemployment at its lowest rate since the mid-1970s, employers can struggle to find talent with the necessary digital skills. With national productivity rates plateauing, reskilling of workforces offers potential for boosting the economy.

At Tech City UK, our mission is to nurture a robust pipeline of high-growth digital businesses in the UK and empower their workforces. Part of how we do this is by ensuring that prospective entrepreneurs and their executive teams have the skills they need to start, join or grow a digital business.

In late 2014 we launched the the Digital Business Academy (DBA), a free online learning resource, home to a range of courses teaching start-up skills. An

overarching aim of the DBA is to diversify the talent pool from which businesses pick their staff. For too long access to business skills has been the preserve of MBA programmes, or years of on-the-job training. But the cost and time commitment of either of these options, together with rapidly changing industry needs, mean that a new approach is due. The recently revamped courses are designed in partnership with Cambridge University Judge Business School, University College London, Founder Centric and Valuable Content; with a reach of almost 25,000 learners to date.

Our courses avoid long, instructor-led tutorials which inundate students with information that is irrelevant to their goals. Instead, learners choose from 56 mobile-optimised bitesize courses, that each teach tightly targeted skills. By allowing learners to choose how and when they learn, the courses remain useful to people at all stages of their career. DBA courses contain tips for users on things like how to raise your first round of investment, or improve search engine optimisation.

Sarah Wood, co-founder and CEO of UK video ad-tech company Unruly, says: "Digital skills are critical for all businesses, so it's more important than ever to be able to navigate this world. The DBA is a great free online resource for employees and entrepreneurs to gain the practical skills they need to stay ahead."

Since the DBA has been running, over 60 per cent of course completers who we surveyed, have been hired, promoted, or have started a digital business. Alumni include founders, investors, and even Apple employees. As an extra incentive to DBA learners, reward points are offered for every completed course. These can be saved up and redeemed on rewards including free desk space and mentoring sessions with our partners.

Ultimately, to create an innovative and adaptable workforce, we think the skills solution should be the same.

For more information, please visit:
www.digitalbusinessacademyuk.com

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“Other countries are horrified by what’s happening in the UK”



With hundreds of closures and thousands of jobs lost, the UK’s public library system is being demolished. **Will Dunn** asks the experts what losing libraries could cost the UK in skills

In 2007, the author Neil Gaiman travelled to China to attend the country’s first state-sanctioned science fiction convention. While there he asked a senior official why the Chinese government, which had previously banned this genre of literature, now sought to promote it.

The answer he was given, as Gaiman recalled in a speech in 2013, was that “the Chinese were brilliant at making things if other people brought them the plans, but they did not innovate. They did not imagine. So they sent a delegation to the US, to Apple, to Microsoft, to Google, and they asked the people there who were inventing the future about themselves. And they found that all of them had read science fiction when they were boys or girls.” The Chinese had recognised, in books seen traditionally seen as escapist or lowbrow, a skill that

was worth billions.

While China has held to this principle on its journey towards becoming the world’s largest economy, free access to books has declined in the United Kingdom. China’s National Statistics Bureau states that the number of public libraries in China increased by 8.4 per cent in the first five years of this decade. In roughly the same period, Britain lost 343 public libraries and 8,000 jobs in those that remained. According to CIPFA, the use of volunteers in public libraries more than doubled between 2011 and 2016. Unpaid, part-time workers now make up more than 70 per cent of the average employee headcount in public libraries across the UK. In the most recent report by CIPFA on public libraries, local authorities spent on average 13.2 per cent of their wage bills on “professional staff”. Librarians and



Britain lost 343 libraries and 8,000 jobs in six years

SHUTTERSTOCK.COM / STEFAN HOLM

education experts describe a “hollowing out” of the library system as professional librarians are replaced by volunteers working half-days for free.

Those libraries that stay open in the UK are also buying fewer books. According to CIPFA, total acquisitions in 2016 were less than half what they were in 2013. In the 2015/16 period, local authorities bought on average just over 120 books per 1,000 people. Not 120 books per library; 120 books per thousand across an entire local authority, which could operate 20 libraries or more.

What does it cost a country to lose its libraries? Is there any point holding on to buildings full of books, when most people have a screen in their pocket that can access millions of websites? For Ian Anstice, a librarian and the editor of *Public Libraries News*, libraries are important because they offer “equality

of access to information, and to imagination”. “If you’re wealthy and you can afford a lot of books, that’s brilliant, you don’t need a library. But if you’ve got a child, from toddlers – who are absolutely voracious for picture books – onwards, to give your child the same access to books, and thus to improved literacy, you need a library. You need a place where children can find books for themselves.” Libraries, says Anstice, “level the playing field between those who can afford all the books they want, and the rest, who can’t. That has a demonstrable impact on literacy, and that builds directly into skills.”

Laura Swaffield, chair of the Library Campaign, agrees that the accessibility and openness of libraries are key to their value. “Council-run [libraries] with professional staff... are the first step to almost anything. You can walk in to the smallest one with a query as vague as ‘I’m bored’ to ‘How do I find out about butterflies?’ or ‘I don’t know how to use a computer’, and they can set you on your way.” A good library is “conveniently local, with a unique level of public trust, and a non-institutional atmosphere that encourages adults who’ve fared badly in education system.”

Anstice and Swaffield also agree on the value of public libraries as a resource for those in education. Anstice quotes a study by Oxford University that showed that if a child reads outside of school – “and it’s reading *outside* of school that’s important” – on any subject, they will on average achieve a grade one point higher (so, rising from a B to an A) in that subject. Swaffield quotes other research that libraries “improve performance at school, not just in reading, but other subjects”, and that they “cure the dip in reading skills that typically happens during breaks, and encourage reluctant readers.”

Libraries are also vital to the spread of digital skills. As Swaffield points out, the government’s own Digital Strategy includes a commitment to make libraries “the ‘go-to’ provider of digital access, training and support for local communities. It notes that libraries are ‘trusted’, and provide hundreds of

➔ thousands of skill sessions, as well as coding and makerspaces.”

But the most costly aspect of the dismantling of the UK’s public libraries is also the most fundamental. “If you don’t have a literate population,” says Ian Anstice, “you don’t have skilled population.”

The idea that the UK, as a prosperous democracy, doesn’t have a literacy problem is a dangerous assumption. A study last year by the Joseph Rowntree Foundation revealed that five million adults in England lack the “basic reading, writing and numeracy skills essential to everyday life”, while millions more struggle by with the most basic skills. This problem is concentrated among the young. England was the only country surveyed by JRF in which the literacy scores of the youngest age group (16-19)

The UK is the worst in the OECD for teen literacy

were lower than that of the eldest (55-65); the older generation, the generation which had access to free books and professional librarians, had ranked third in the world for literacy. Of the 34 countries in the OECD, England now ranks 34th for literacy in teenagers.

What does illiteracy cost an economy? In 2015, research by the World Literacy Foundation calculated the factors to which illiteracy contributes – the limits on employability and productivity, the absence of technological skills and wealth creation, the negative effects on health and the costs incurred through crime rates and increased reliance on benefits – and put the figure at two per cent of GDP for a developed country. In the UK, then, illiteracy costs over

£800m a week.

As an expert on book buying, reading development and libraries in general, Anstice is often asked to speak at conferences on the subject. In recent years, however, he found himself in demand as a speaker at international conferences, and not solely for his expertise. “I’ve spoken at the French national libraries conference twice,” he says, “which confused me, because I don’t actually speak French. But I was speaking to this packed room full of French librarians, and they were fascinated, they invited me back again the next year. The reason was that they couldn’t believe what was going on in the UK, and they were terrified it could happen to them.” In countries from Spain and France to Australia and New Zealand, Anstice is called upon to describe what has happened to the British public library system, and everywhere the reaction is the same: “shock and disgust.”

“We’re the bad news story. We’re the nightmare that they tell the naughty libraries – be careful, or what happened in the UK could happen to you.”

Anstice reaffirms that the UK cannot blame declining in library use on the internet, because “technological change is happening everywhere. You’ve got e-books and the internet everywhere. But in terms of visits to libraries, I’m seeing only a slight decline to libraries elsewhere, and in many cases an increase. Europe, Canada, Australia, New Zealand and the USA are all not seeing the decline that we’re seeing.”

Some libraries in the UK, too, are faring better. “I buy children’s books, and I can tell you that in new libraries and libraries that have refurbishments, I’m having to buy more new books than ever before, because the demand is there. Where we’re seeing a decline in reading is where you’d expect it, if you didn’t know anything about libraries but just saw them as retail – in those libraries where there is no investment in making the place look good, and where you’ve taken away the book budget.”

Fortunately for other countries, the



The Stuttgart Library in Germany, where investment and new policies such as longer opening hours have added millions of visits per year

funding conditions that have devastated the UK’s library system are not being repeated abroad. In the UK, explains Anstice, “Local authorities can decide what services they provide with almost no reference to central government. Central government are reducing the funding, which effectively means it’s every library for itself.”

There is legal protection for libraries in the 1964 Public Libraries and Museums Act. “Unfortunately,” says Anstice, “the person protecting them is the Secretary of State, who has effectively never intervened.” Why not? “Why would they? If you’re reducing funding, it’s going to have a negative impact, and the last thing you want to do if you’re a government minister is to draw attention to that by intervening in authorities and saying that “things are bad here”, because local authorities will say “well, you know why that is, don’t you Minister?”



Even councils that commit to protecting their libraries are eventually forced to give them up. Northamptonshire is a council that took every possible recommended by DCMS. “They put them [libraries] in health and wellbeing, they charge for all sorts of things, they’ve done everything they can. The chief executive of Northamptonshire was the chair of the Libraries Taskforce. He cared an awful lot for public libraries. But he was asked to reduce their budget by

“The Secretary of State never intervenes for libraries”

£500m. No council can cope with that. So, one of the things that’s had to be cut, and cut significantly, is public libraries.”

Money for skills is being found elsewhere. In 2016, the UK spent £824m on public libraries; in the same year, the government committed £1.26bn – almost half again the entire public libraries budget – to the National Citizen Service, which offers team-building and outdoor pursuits activities to teenagers during school holidays at a cost of over £1,800 per participant. It is yet to be seen how much a pound spent on the NCS returns to the economy, but dozens of studies have shown that public libraries deliver a significant return on investment. The most recent study in the UK, performed by an independent research consultancy for the Archives, Libraries and Museums Alliance, found that £1 invested in libraries delivered between £5.50 – £7.50 in value to users. The most recent US study showed that

public libraries return four times the economic benefit of the money invested in them.

For MPs and policymakers, Anstice says the answer is literally in front of them. “Go into Westminster Library on any weekday afternoon. You’ll see row upon row of people just quietly studying, and you’ll see that in most city libraries. The answer to the skills question isn’t far away - just walk to Westminster Central.” Those people will only be able to continue developing their skills if MPs do this, he says. “The only way to protect public libraries is by intervention. If you’re having austerity, if you’re having large reductions to services, local councils will naturally look at easier targets. There will be protests if a library is closed, but that’s still easier than reducing a lot of the hard statutory protection areas, like social welfare. As long as public libraries are seen as a ‘soft statutory’ service - where technically it’s protected by law, but actually you can do what you like - then these reductions are going to continue.”

Approached to comment on this piece, a DCMS spokesperson told *Spotlight* that “the government is completely committed to helping libraries prosper and recognise the important place they have in communities across the country”, and pointed to the £4m that has been invested in “innovative libraries projects – helping to increase access to new technology and improve people’s digital skills”. Librarians, however, have been quick to point out that this one-off fund does not come close to plugging the deficit, with libraries losing £25m in funding just in the past year.

Future generations, if they can read at all, will read in the dismantling of Britain’s public library system the faithlessness and defeatism of austerity: a story of billions spent on finding ways to use trade connections to somehow hitch the UK to growing economies, while British people were systematically deprived of the most basic and accessible means to acquire the skills to invent, to develop, and to compete.

Adapting to rapidly changing times

As technology progresses, all industries face a battle to attract and retain high-calibre individuals, writes Bosch Rexroth's **Richard Chamberlain**



It feels like the skills gap has been a topic of conversation for a long time now, and yet it still remains relevant. Just this year in the Spring Budget, proposals were set out by the chancellor to create a highly skilled workforce to help boost the United Kingdom's productivity. This announcement was well-received from manufacturers across the UK, especially in light of the revised figures from the Office for Budget Responsibility (OBR) which point to an average rate of productivity growth of 0.2 per cent over the past five years and reported that Britain's productivity crisis is not going to come to an end any time soon.

The fourth industrial revolution, also known as Industry 4.0, is now upon us and presents the idea of a "connected industry" – integrating people, machines and the digital world. Therefore it is vital that young engineers are trained to deal with these new technologies, and in the same

respect we must ensure the current workforce is keeping up to speed with these rapid advancements.

Recently, we conducted a survey which targeted those working in the manufacturing sector to understand a range of topics related to employer training provision. Entitled *Tackling the training gap in UK manufacturing*, the findings revealed troubling gaps in training, which if left unplugged, are likely to become a major barrier to competitiveness and profitability.

In any case, it is almost universally accepted that companies need to invest in developing their staff and equipment if they wish to progress as a company and remain competitive. With Industry 4.0 set to transform the manufacturing sector, it is highly surprising that awareness of training in this area among respondents – and it must be noted that respondents were at manager level or above – did not even reach one in three.

It is our belief that people are the key

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players in modern manufacturing environments and if employees are left unequipped to deal with the advancing technology, the impact this could have on the wider implementation of Industry 4.0 technologies could have a detrimental effect on the UK's position in the global marketplace.

What is important to understand at this time is that Industry 4.0 is no longer just a theoretical concept, it is a reality. For example, within the Rexroth family in the past few years, we have opened an award winning Industry 4.0 assembly line in our Homburg Plant in Germany, which is fully integrated into the Bosch Production System (BPS), and is the first practical, continuously adaptable Connected Industry line – therefore it's essential the UK is not left behind.

The benefits of automation are well-known – but we still need the skills to install, commission and maintain these devices throughout

their working life. We must empower engineers by giving them basic skills first, then offer them the opportunities to develop their career as far as they are able. To get the best from advanced technologies and concepts such as Industry 4.0, we must ensure the workforce of today and tomorrow are constantly educated so they are always equipped with the relevant skills, understanding and flexibility to deal with our ever-changing world.

Importance of partners

No matter how complete a company's commitment is to training, it is generally accepted that not all training can be accommodated in-house. External partners and institutions are often called upon to deliver some aspects of training and therefore they play an essential role in the wider story.

It goes without saying that training must always be of value to the employee and geared towards the organisation's needs. However, a lack of engagement between manufacturers and training providers is seemingly restricting the industry's progression.

The Hays Global Skills Index has reported that Britain's skills shortage is worsening at a rate of eight percent a year, with one in four vacancies proving difficult to fill. Employers need an available pool of skilled workers – from entry-level through to engineers – to address their skill shortages. Yet, when we consider that more than half of companies are given no input into shaping college curriculums, it's unsurprising that students are lacking real skills that are required for jobs in the modern manufacturing economy.

The combination of outdated courses available from educational establishments, and in-house training methods which remain largely focused on traditional delivery methods, make it easy to see why there might be frustrations among those responsible for the availability of relevant training courses to support greater digitisation, data management, and the adoption of advanced manufacturing techniques.

There is a requirement for industry leaders, training establishments, trade bodies, government and other interested parties to join forces. This will ensure the provision of technologically relevant courses geared to the changing needs of engineering companies to enhance their offerings in an ever-more competitive environment.

A fresh approach

Most organisations undertake some training but in many instances it appears to be piecemeal and an activity which is squeezed in around day-to-day operational requirements rather than being seen as a core value-adding function which requires a strategic investment of time and resources.

E-training is more widely available and is a great way to counteract the barrier to upskilling during working hours. It must be noted that more than half of respondents believe that physical training is more appropriate given the nature of the work undertaken. In time, this may shift as the implementation of Industry 4.0 becomes more widespread.

As a major provider of industry-specific training, we recognise the need for course content and delivery to be flexible enough to adapt to meet the rapidly changing needs of leading manufacturing companies and their employees. This approach should be taken across manufacturing education and the link between educational establishments and industry needs are appropriately aligned.

Apprenticeships, for example, are central to overall industrial strategy and should combine practical and theoretical learning – but training should not end the moment an apprentice completes his or her course, and we welcome the government's commitment to creating a proper system of technical education, aimed at young people not attending university, and those already in the workforce. Collaboration from all interested parties is key, and we must play our part in closing the skills and productivity gap.

The new president of the National Union of Students is a single mother who didn't go to university. **Shakira Martin** tells Augusta Riddy why more support must be offered to working-class students

“When I hear student issues, I feel personally responsible”

Shakira Martin offers a sweet with the words “NUS National Conference” written on it. “It turns your tongue blue,” she warns.

Martin was elected NUS president with 56 per cent of the vote this July, promising to restore the union to its members, end a period of vicious infighting, and create a NUS that would be “taken seriously”. How’s it going? “I feel like I’m doing it ... we’re gaining credibility back as an organisation.”

She opened her NUS conference election speech by stating “I’m a black, single, working-class mother”, making it clear, as she does in our meeting, that her circumstances not only affect her outlook, but play a central part in her approach to the plight of students and her style of leadership. “Let’s not act like I’m a typical student leader, I am different. The way I roll and the way that I work is totally different ... I like to use my adversity and experiences to help other people.”

Martin believes that class has been wrongfully left out of the education debate. “The government often talks

about poverty but doesn’t talk about class, so I’m hoping to highlight the class barriers that people are facing”. Beyond the struggle to get more working-class students into further and higher education – young people from disadvantaged backgrounds are still two and half times less likely to enter higher education – she is championing the fight to increase support for them once they are there. The Office for Fair Access found that in 2015-16, 8.8 per cent of young, disadvantaged students did not continue in higher education past the first year. “It’s not just about getting them into those institutions, but the support that they have while they’re studying.”

Martin believes there isn’t enough assistance to make the right choice when it comes to education. “I feel it’s really important for us to have proper, impartial IAG – information, advice and guidance. It’s about being able to have the information prior to making decisions so that people know what the best route is for them.” When it comes to higher education, it’s not a case of “one size fits

all,” she explains, “this notion that you have to go to university to be successful is totally untrue.”

Without hesitation Martin says the single biggest challenge to working-class students is the scrapping of maintenance grants which were replaced by loans in 2016. “This disproportionately affects working-class students.” The 2017 Student Money Survey found the average maintenance loan was £600 per month, whilst the average monthly living cost was £821, and housing cost £394. “Students struggle on a day-to-day basis with finances, knowing whether to choose between bread and milk or going out socialising ... as [former Conservative Universities Minister] David Willetts and Lord Adonis said, the loan system now is regressive. It’s about time government starts listening to them and to me because I represent 7 million students, one of the biggest mandates in the country.” Martin strongly favours a return to the grants system and, in the absence of grants, argues that the



maintenance loan should at least cover the cost of living.

To address the issue of students living in poverty, Martin has set up a Poverty Commission, delivering on her flagship leadership campaign policy. “It’s a two-year project. The focus is looking at the financial barriers that working class people face in accessing and succeeding in education.” For the first year, the Commission will gather evidence and real-life case studies, which will form the basis of a series of recommendations. The second year will focus on campaigning for the recommendations to be implemented; ultimately “what I would like to get out of the Poverty Commission is for the government to do an independent review into student funding.”

Martin is clear that the disadvantages associated with poverty and class continue past graduation. The OFFA report found that disadvantaged students are six per cent less likely to enter professional employment post-graduation. “There’s a certain level of social capital that working-class people may get when you go to higher education, but as soon as they leave it’s finished.” She uses the example of unpaid internships. “I know for me personally, as a single mother, that is just not an option – no matter how much experience I can get out of it.” The hypocrisy of unpaid parliamentary internships at the time of the Apprenticeship Levy, a government policy to tax businesses in order to create more apprentices, is particularly galling. “I don’t see how [it’s allowed when] it’s the government who has flipping policy on getting apprenticeships! They continue to breed the same kind of elitism.” On the type of young people these internships will attract, she suggests that “it ain’t going to be Jerome from Peckham”. The NUS represents around 250,000 apprentices, and this is expected to increase as the levy comes into act; “with the amount of money that the levy is going to generate, I would definitely welcome the national living wage for all apprentices.”

For Martin, hearing and understanding individual cases is very important.



“When I hear student issues, I feel personally responsible.” She lists multiple examples of conversations she’s had with students “on the ground”, including international students who can’t afford to go home for Christmas. “The amount of money that international students contribute to our education system and our economy ... I think it’s outrageous.” On the day we meet, she has spoken to a mother who dropped out in her second year and transferred to a new university, but was paying for the course she dropped out of through a payment plan that will take £8,000 out of her current maintenance. “She’s got two kids. I had to leave her with the note of ‘don’t be deterred, there’s a bigger force fighting for you’ – but it would be much easier for that young mother to just drop out and be on benefits.”

“It’s very easy for the government and policymakers to analyse data based on numbers, without understanding the pain and the suffering of what people go through ... they wasn’t with me when I couldn’t get to college, when I was crying, when I felt like dropping out. It took a lot for me to get here.”

While she’s not personally a fan of the Conservative party, Martin believes in talking to a wide range of politicians – an approach that breaks with recent NUS practice. “I understand that as the president of the NUS, it’s important to

work across all parties. The Tories are in government! We need a range of different tactics, from the streets to the boardroom and everything in between, to be able to win for our students.” She regularly makes her presence known to the Universities Minister, Jo Johnson; when his name is mentioned, she sighs deeply. “Poor Jo, Jo, Jo, Jo, Jo. I actually feel sorry for him. Poor ting.” Johnson’s recent suggestion that students struggling to live on a maintenance loan could get a job or live more modestly summarises, in Martin’s view, exactly what the government misses: “Students don’t *have* a choice when it comes down to living frugally. They don’t have enough money to be able to survive.”

It is doubtful that anyone who has met Martin would underestimate her, not least Jo Johnson. Next on her agenda is a funding review: “The government announced at Tory party conference that they’re going to have a funding review. I need this funding review to happen now, but it will not be credible if students aren’t part of that process. And if the funding review is announced and there’s no students [represented], then I’ll come for you.”

“As a leader I’ll be the last one to jump off the ship, I’ll be the first one to jump in front of the bullet, I’ll be the first one to have your back. Everybody knows what the NUS is against. It’s about time they know what we’re for.”

How can we modernise the education system?

A boom in education technology would benefit the UK's overall economy, writes Ji Li, managing director of Plum Innovations

How a country structures its school system is usually a good barometer of success. Education underpins a host of wider social and economic issues, including determining career prospects. And while methods might differ from party to party, the end goal for any government should remain the same: to make what is learnt in the classroom applicable outside of it. The challenge that arises, then, is in ensuring that teaching is modernised alongside society's changing needs. The advent of education technology (EdTech) signals that this is a matter which is being recognised.

It's not about ripping up textbooks and throwing all of the old teaching techniques out of the window; it's about replacing them with something better. It's about delivering education, both core subject knowledge and brand new digital skills, in way that is more efficient and more engaging for students. Education should be less constrained by physical documents and delivered in real time, while innovating beyond a series of comprehension exercises. Cloud computing, one of the principal tenets of EdTech, can help to achieve better outcomes for pupils. Schools' broadband connectivity and wider IT infrastructure, therefore, is crucial to how teachers track students' progress with paperless databases, improve communication, and use gamification or interactive techniques to pique people's interests.

As industries and businesses continue to digitalise, observing the benefits of data centricity, greater audience reach and more attractive content creation, it makes sense for the United Kingdom's

skills pipeline to be sensitive to this trend at an earlier stage. Rob Carpenter, the CEO of Inspire Partnership, suggests that a change in the focus of education needs to see a shift away from a "knowledge-based curriculum" and towards one that concentrates on "functional skills". He says: "There is a substantial mismatch between work-related skills and future skills requirements. While our school curriculum continues to lean against a knowledge-based curriculum, across the globe, business leaders are desperate for a workforce strategy which deepens cross-functional skills which are more flexible, applicable to different work contexts and more refined to our globally more sensitive preferences."

Patrick Hayes, director of the British Education Suppliers Association (BESA) says: "The digital skills gap is a growing concern among businesses in the UK. According to the British Chambers of Commerce, 75 per cent of businesses believe there is a skills shortage among employers." He adds: "Without the necessary IT infrastructure and a sufficient budget allocation on education software, pupils and teachers alike may fail to have access to the great promise of a 'digital classroom' and could end up being disconnected from its benefits."

Digitalisation, though replete with opportunities, also carries a number of risks. Training people to be more aware of these at an earlier age will improve their experience of and performance with technology in the long run. Policymakers should aim to embed digital intelligence into the way we learn and work so that people become informed users and creators. A grasp of cyber security is a must-have for any organisation.

Technology, ultimately, should be used to empower rather than alienate its users. When it comes to schools, Plum doesn't want to view IT simply in the context of maintenance; we want to make sure that EdTech can improve learning outcomes and staff work efficiency. So, let's modernise education.

For more information, please visit: www.pluminnovations.co.uk

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