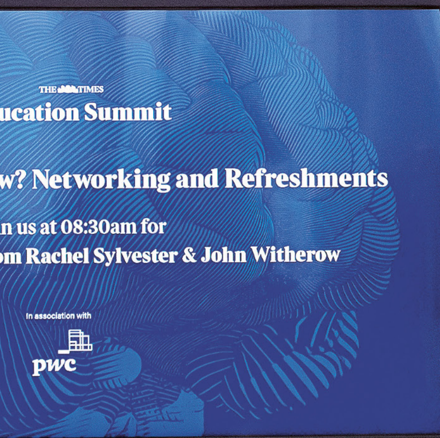
BRINGING OUT THE BEST

How to transform education and
unleash the potential of every child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om Rachel Sylvester & John Witherow
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Education

The Times **Education Commission was set up in June last year at the suggestion of Sir Anthony Seldon. Its aim was to examine Britain's whole education system and consider its future in the light of the Covid-19 crisis, declining social mobility, new technology and the changing nature of work.**

This year-long project has been chaired by the *Times* columnist Rachel Sylvester supported by a distinguished team of 22 commissioners with successful backgrounds in business, education, science, the arts and government.

We wanted the commission to be a catalyst for change. As we all know, the pandemic was a disaster for children and young people, and not just in terms of lost learning and damage to mental health. The closure of schools during lockdown deepened disparities and widened the attainment gap. Disadvantaged children fell further behind their better-off peers, state schools further behind independent schools, north further behind south.

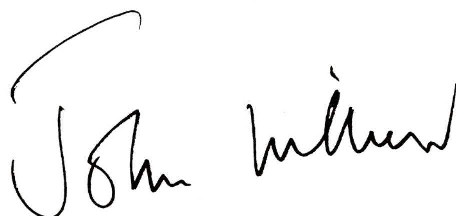
But the flaws in our education system predate the pandemic. It has long been clear we are failing to produce the qualified, well-rounded students that employers need if the country is to succeed in a modern global economy. Low productivity, poor social mobility and a shortage of essential skills are holding Britain back.

The pandemic, by calling into question almost every aspect of the way things used to be, actually gave us a chance to take stock, to rethink the system from top to bottom, to look at what other countries do better or differently and to bring about fundamental change.

The commission is one of the broadest inquiries into education ever held in Britain and the first to look at the system from early years through to lifelong learning. It has heard expert evidence from former prime ministers, business leaders, educationists, artists, even an explorer. It has visited schools around the country and around the world. A summit held last month drew on the expert evidence given to the commission up to that point and the lessons of a business survey conducted by PwC.

It heard discussions that considered what skills need to be taught in schools to help to set children up for the working world and how business can help to fill in the skills gap. It looked at how the education system can best support social mobility and whether the present assessment system is still relevant: is it time to replace GCSEs with something that reflects today's changing society? It also considered what the future could look like for education through developments in technology.

A special thank you to PwC, who have worked closely with the commission, conducting extensive research into the views of business leaders on what they feel about the education system and areas for improvement. I hope you find this report illuminating and thought-provoking. Education, put simply, should be at the heart of Britain's future.



EDITOR, THE TIMES

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REPORT COMPILED BY

Rachel Sylvester, chairwoman of The Times Education Commission

Opposite, clockwise from top: John Witherow, Rachel Sylvester and Dame Kate Bingham at the Times Education Commission Summit last month

A TWELVE-POINT PLAN FOR EDUCATION

1 A British Baccalaureate, offering broader academic and vocational qualifications at 18, with parity in funding per pupil in both routes, and a slimmed-down set of exams at 16 to bring out the best in every child.

2 An "electives premium" for all schools to be spent on activities including drama, music, dance and sport and a National Citizen Service experience for every pupil, with volunteering and outdoor pursuits expeditions to ensure that the co-curricular activities enjoyed by the most advantaged become available to all.

3 A new cadre of Career Academies — elite technical and vocational sixth forms with close links to industry — mirroring the academic sixth forms that are being established and a new focus on creativity and entrepreneurialism in education to unleash the economic potential of Britain.

4 A significant boost to early years funding targeted at the most vulnerable and a unique pupil number from birth, to level the playing field before children get to school. A library in every primary school.

5 An army of undergraduate tutors earning credit towards their degrees by helping pupils who fall behind to catch up.

6 A laptop or tablet for every child and a greater use of artificial intelligence in schools, colleges and universities to personalise learning, reduce teacher workload and prepare young people better for future employment.

7 Wellbeing should be at the heart of education, with a counsellor in every school and an annual wellbeing survey of pupils to encourage schools to actively build resilience rather than just support students once problems have arisen.

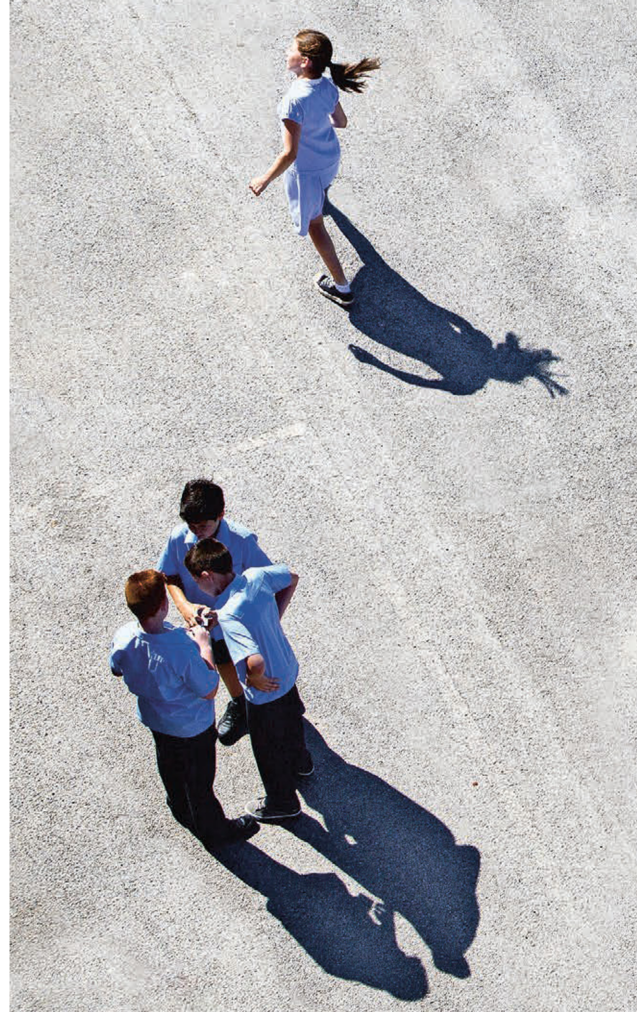
8 Bring out the best in teaching by enhancing its status and appeal with better career development, revalidation every five years and a new category of consultant teachers, promoted within the classroom, as well as a new teaching apprenticeship.

9 A reformed Ofsted that works collaboratively with schools to secure sustained improvement, rather than operating through fear, and a new "school report card" with a wider range of metrics including wellbeing, school culture, inclusion and attendance to unleash the potential of schools.

10 Better training for teachers to identify children who have special educational needs, give a greater focus on inclusion and put a duty on schools to remain accountable for the pupils they exclude to draw out the talent in every child.

11 New university campuses in fifty higher education "cold spots", including satellite wings in further education colleges, improved pay and conditions in the FE sector and a transferrable credit system between universities and colleges to boost stalled British productivity.

12 A 15-year strategy for education, drawn up in consultation with business leaders, scientists, local mayors, civic leaders and cultural figures, putting education above short-term party politics and bringing out the best in our schools, colleges and universities.



FOREWORD

Michael Morpurgo explains why it is time for new thinking to leave the best legacy for our children

There is a tide.

We have had good cause in recent days to pause, to take stock, to think again. There was a time, in and around the year I was born in 1943, when the people of this country and others were enduring the devastating trauma of world war. They had partly fended off defeat but were certainly not yet on the road to victory. But they believed in ultimate victory, however remote it must have seemed. And that gave that generation hope, and with it the determination to create a better, fairer world after the war was over and won, to begin to conceive a new beginning for all people.

Out of that hope and determination came ideas for radical enabling reform, particularly in the fields of education and health. Their fierce commitment brought about the Education Act 1944, and in 1947 the National Health Service, and much else besides. The world I grew up in was the product of a generation who recognised how great was the need of the people, and how important were their rights to opportunity and fulfilment, no matter where they lived or their social circumstances. There was a tide turning and they recognised it and responded to it.

My generation have benefited hugely from that turning of the tide, from the inspiration and determination of that generation. We may not have been through a war as they had, but we have lived through the darkest and saddest times we have known, during which we have reflected on so much, from the blackbird singing in the garden, to the kindness of a neighbour, to the importance of relationships in our

families, to the nature of our society itself. We stopped taking people for granted, indeed stopped taking life itself for granted.

But we knew that the pandemic would be over one day, that the "normal" we had been so accustomed to was not the normal we wanted to return to; that we should aspire to something better, something fairer, especially for our children. Before our eyes we were witnessing the great benefits and the dedication of the NHS, and indeed its shortcomings.

What of our education system?

For any society nothing matters more than the children, the seedcorn of its future, the contentment of the people, its future cohesion, its future prosperity, its future place in the world. We know we should have an education system in which the wellbeing of every child is the priority, schools in which learning and creativity go hand in hand, where there is room and expertise for the potential of all children to be recognised and nurtured.

We have remarkable teachers all over the country who are guiding our children intellectually and emotionally through all the complexities of growing up, encouraging them, inspiring them, enriching them, devoting their lives to them. We have thousands of remarkable schools. Yet the system has failed and is failing so many.

At the heart of my concerns, as a teacher one way or another all my life, has been that we have a system of education geared to the system, not the child and the teacher and parent and the school. Life is not a race, not a competition. It is for living, for finding your own voice, your self-worth, your own place in society. It is a great teacher, a great school and great parents who help children to find themselves, be one fully who they are, achieve their aspirations.

It was of course a great honour to sit down with my fellow *Times* Education Commissioners and all the witnesses we called. They came from across our society and spoke, each with deep expertise, knowledge and insight, helping us all to find new ways, explore new ideas in education to help to turn the tide for all our children.

> "For any society nothing matters more than the children, the seedcorn of its future

I myself came to the table anxious to find, with colleagues, ways to create fairer opportunities for all our children, to break away from a system that creates success, yes, but therefore accepts failure too; to recognise that a good education is the right of every one of us all, cradle to grave.

I have my own priorities: we all have around the table. We know that children in this society are still all too often denied proper access to libraries and books. Many still leave school barely literate. Yet we know that books are perhaps the greatest of all pathways to knowledge and understanding and creativity.

So my priorities. We know how important is our understanding of climate change, its critical effect on us and upon the natural world, that for the children of today this understanding is not just an option, but essential to their futures, to all our futures. We know that to understand it children need to feel connected to that world, feel that it is theirs to enjoy and to study and to care for. Yet millions, very often those who have least, who are not literate, rarely have the chance to get out there and walk the hills and feel the wind, break the ice on puddles in winter, see a heron rise from a river, dig potatoes, see frogspawn in a pond. It is their world and they have to know they belong to it, that it belongs to all of us, that with that comes responsibility.

So, time to think again, to do better for all our children. There's no greater legacy we can leave them.

Education is for opening eyes and minds and hearts. It is our task to enable all our children to have the educational opportunities to live life to the full, for themselves and for one another, for all of us on this planet.

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PURPOSE OF EDUCATION

LEARNING FOR THE FUTURE

The commission found that the system is failing on every measure but its year-long inquiry has some lessons for a way forward, writes **Rachel Sylvester**, its chairwoman

"Education," Socrates told his pupils, "is the kindling of a flame not the filling of a vessel." The film director and artist Sir Steve McQueen put it slightly differently when he gave evidence to *The Times* Education Commission. "All kids need is a spark, or half a spark, just a little light. They think, 'Mmm, that's interesting,'" the Oscar and Turner Prize winner said. "We're not creating robots, we want to create great human beings who can actually contribute." He revealed that his own personal passion at school had been English country dancing.

There are many purposes of education both for individuals and society but underlying them all is the need to give young people the intellectual and emotional tools to live productive, fulfilling lives. The word "educate" has its roots in the Latin word for "bringing out" or "leading forth". As the best teachers know, education is about identifying and drawing out the talent in every child. It means recognising that there are many ways to capitalise on a student's potential and there should be more than one route to success. The Harvard education professor Howard Gardner argues that human beings have a variety of different intelligences — emotional and practical as well as academic — and the purpose of education is to develop them all rather than just focusing on one. His approach, he explained to the commission, is: "Don't ask how intelligent a child is; ask, rather, in which ways is the child intelligent?"

Education also has a social purpose. It broadens minds and advances civilisations. At its best, education is the great liberator, the expander of human horizons. It should be the engine of social mobility — or as the prime minister likes to say "levelling up" — giving every child the chance to flourish whatever their background and capabilities. Schools have the power to foster community cohesion and counter division, making them crucial defenders of democracy. They should inculcate an awareness of the wider world and give students a sense of their place in it. Their aim must be to build happy, confident citizens with an understanding of themselves and an empathy for others.

Then there is the crucial economic role of education. As Andreas Schleicher, director for education and skills at the Organisation for Economic Cooperation and Development (OECD) and the commission's international adviser, put it: "Your education today is your economy tomorrow." Schools are the foundation on which the country's future prosperity is built. A well-functioning education system should provide businesses with the skills they need to thrive while also ensuring that children are ready for work. In order to achieve this aim, it needs to nurture its workforce and harness the power of the latest technologies to simultaneously improve efficiency and prepare students for the modern world.

These multiple purposes of education are interconnected and at times strain against each other. Depending on the priorities of different governments, the system may lean more towards the individual or the collective roles. Yet all are important to the national endeavour as well as personal attainment. And for all the superb work being done by individual teachers and schools around the country, the evidence presented to *The Times* Education Commission over the past year suggests that the system as a whole is fundamentally failing on every one of these fronts.

This is not just a short-term problem caused by the pandemic. The coronavirus emergency, which led to successive school closures, undoubtedly had a chilling effect on education, particularly for the most disadvantaged. Children lost more than a third of their in-person learning time over the course of a year and the gap between rich and poor students widened. School leaders warn of a "K-shaped" recovery, with the "haves" represented by the upward slope of the K bouncing back quickly while the "have nots" on the downward stroke fell further behind. About 100,000 children have almost entirely disappeared from education since schools returned and are at risk of criminal exploitation or domestic abuse.

Yet the flaws in the education system that were

YOUTH PANEL

More creativity and VR headsets: the view from primary schools

"I would make a subject about creativity where students go outside and they write about what they think," Moriah, 11, from Ivybridge Primary School in Isleworth, west London, told *The Times* Education Commission's primary youth panel.

Ethan Kent, 10, from Belvoirdale School in Leicestershire, said: "You could have like a virtual reality headset and you could put it on and you could see somebody talking to you from Rome."

Jack Ewin, 11, from Fulwell Junior School in Sunderland, said that if he were to choose another subject to study he would pick paleontology.

Aleisha Mahmood, 11, from West Jesmond, said that art would be a good choice for a subject to be assessed on, "because there's not really any wrong answer, and I think that would be very enjoyable for most people".

Oliver Myers

exposed — and in some cases made worse — by the pandemic predate Covid-19. Even before the crisis, social mobility had stalled. A third of pupils in England are defined as failures at 16 because they do not get a grade 4 or above in their English and maths GCSEs. There are significant disparities between the academic outcomes of rich and poor students and regional variations in the quality of the education on offer. Although 83 per cent of schools have been declared "good" or "outstanding" by Ofsted, there are still 306 areas in England where every primary is rated either "inadequate" or "requiring improvement" and the majority of them are in the most deprived parts of the country.

Success in education is still measured almost entirely in academic terms. There are perverse incentives that encourage schools to exclude or "off-roll" students who are unlikely to do well in their exams. The brightest pupils are suffering as well because they do not get sufficiently stretched in a system driven by averages. The emotional impact is profound. One in six pupils is suffering from a probable mental health disorder and the UK's students have the second lowest levels of "life satisfaction" in the OECD. A third of teachers are considering leaving the profession and half of head teachers intend to quit within five years because of the "unmanageable" workload.

At the same time, the education system is failing to sufficiently train up the workforce that the country needs. The Open University's latest annual Business Barometer found that 63 per cent of business leaders were struggling with recruitment because candidates do not have the skills or necessary experience for the required role. An estimated 9 million working-aged adults in England have low levels of basic literacy or numeracy, including 5 million who have low skills in both, and 22 per cent of adults lack the technological "life" skills required to participate in the digital world.

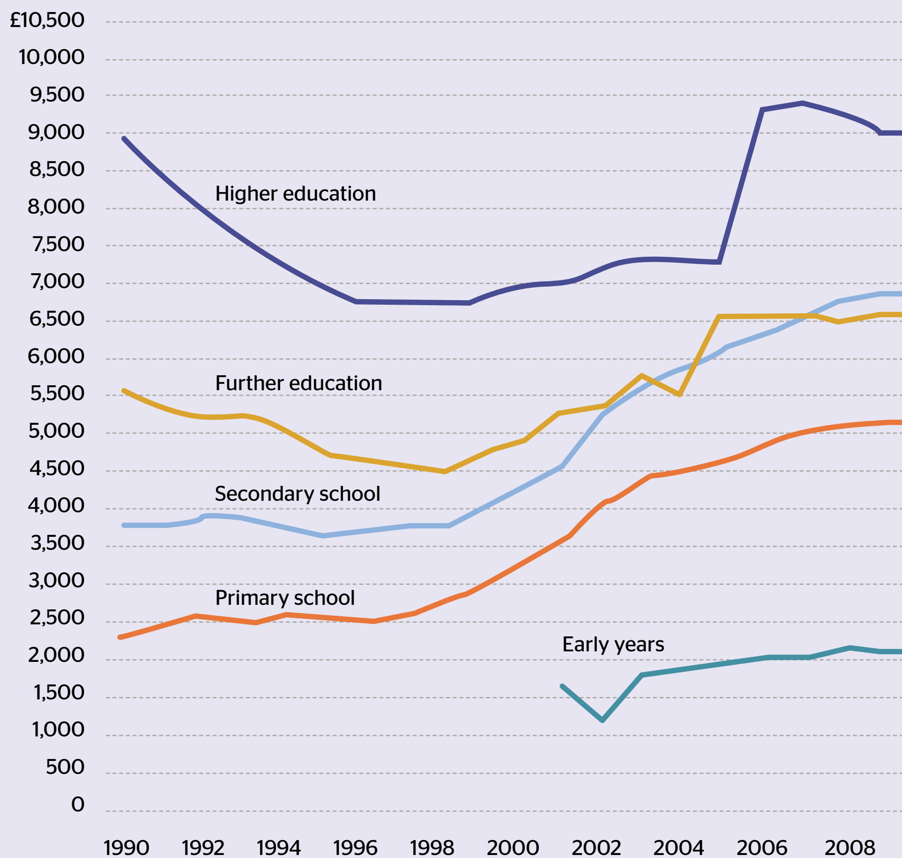
There is a significant mismatch between the capabilities being developed in school and those that the economy needs. The gap between supply and demand is already widening fast in so called "green jobs", including roles in battery technology, and the digital sector, with positions relating to software programming and cybersecurity going unfilled.

A survey of businesses for the commission by the professional services firm PwC found that 85 per cent of companies either have or expect to have skills shortages in key sectors of the economy. More than a third said they had shortages in basic skills including literacy and numeracy; 39 per cent were struggling to recruit people with the right digital and technological proficiencies; and more than 40 per cent expected to have shortages in the skills needed to support the transition to net zero within the next 12 months.

According to the PwC research, 75 per cent of businesses have had to give new recruits additional training in basic skills including literacy and numeracy. There is undoubtedly an economic cost. Half the companies said that reimagining schools, colleges and universities to better meet their needs would allow them to contribute to a more resilient UK economy. In a separate study, the Commercial Education Trust found that almost three quarters of businesses believed that their profitability and productivity would rise by at least 25 per cent if new recruits from school, college or university were prepared better and had excellent commercial ability. The analysis concluded that reforming education to make it more commercially

DIVVIED UP

Spending per pupil, at different stages of education



75%

of companies say they have had to give extra training in basic skills

relevant could boost the economy by as much as £125 billion a year.

Sir Charlie Mayfield, the former chairman of John Lewis and the UK Commission for Employment and Skills, is now head of the training and apprenticeship firm QA. "We've ended up in a situation where the world of education and the world of work are almost more separate than they've ever been," he said. "It's crazy and very unfortunate for a lot of people." He suggested that the failure to address the skills gap could cost the UK £140 billion in lost GDP by 2028. "Standards in education have always been measured by exams, assessments and grades, so it's not surprising that this has been the focus. However, this is increasingly at the expense of what employers really value: resilience, communication and problem solving. How much time do young people spend developing those skills while studying for the mark scheme?" Without fundamental reform of education he warned: "We'll be less productive, we will be poorer as a society and the economy will be less competitive internationally."

At a time when productivity is flatlining, such warnings cannot be ignored. The commission's research suggests that parents and pupils are also losing faith in the present approach. According to a YouGov poll, almost two thirds of parents think that the education system does not adequately prepare young people for work or life. Parents overwhelmingly prioritise their child's wellbeing over academic attainment — by a majority of ten to one — and they feel that schools focus too narrowly on exams. The poll found that 65 per cent of parents believe that the education system puts too much emphasis on tests and qualifications, compared with only 11 per cent who think that it does not put enough focus on exams.

Their concern was reinforced by the commission's

youth panel. Young people from all over the country aged from 10 to 21 expressed their frustration about the rigidity of their schooling. As Kai James, 18, from Exeter, put it: "From a really young age we're preparing for exams. We start at Sats and GCSE and A-level and there's this kind of drive for exam and exam and exam. Exams are great for people who have an amazing memory and ability to just churn out question after question, whereas it doesn't seem to cultivate a sense of unique thinking."

Education should be enabling young people to become the best version of themselves, but Gus Casely-Hayford, director of V&A East, said too many found themselves "battling through" the education system. "Rather than it being a staircase that they can ascend, it becomes a set of obstacles that they have to negotiate. We push people through these very narrow portals and expect them to succeed. If we were to judge education in the way that we judge our children we would absolutely give it a fail."

This is not to diminish the valiant efforts of the many superb teachers and heads doing remarkable work in great schools around the country, just a few of which are highlighted in this report. There has undoubtedly been progress in education over the past 25 years. The changes introduced by Sir Tony Blair as prime minister were built on by Michael Gove as education secretary and the chaotic classrooms and "soft bigotry of low expectations" that characterised too many schools in the 1970s are largely a thing of the past.

Transparency and accountability have driven up standards. Literacy and numeracy rates have improved and the UK's position in the latest school rankings, published in 2019 and based on the OECD Programme for International Student Assessment (Pisa) tests taken by 15 year olds in 79 countries and regions, has improved. In reading, the UK was 14th, up from 22nd three years previously; in science the UK was 14th and in maths the UK was 18th, up from 27th, although it had slipped back since 2000.

Over the past decade, however, reform has stalled. Too much emphasis has been put on the structure and governance of institutions and too little on modernising the content and scope of learning. The schools white paper is a tidying-up exercise that shows a staggering lack of ambition. Further education colleges are still treated as the poor relation and universities are bogged down in culture wars and rows about free speech. Education has fallen down the list of Whitehall priorities. There have been six education secretaries in the past ten years but no coherent long-term plan. According to the Institute for Fiscal Studies (IFS), health spending will have increased by 42 per cent between 2010 and 2025 but education will have risen by less than 3 per cent over the same period: an extraordinary imbalance given the economic importance of building the right skills.

Paul Johnson, the director of the IFS and a member of the commission, said it was "unbelievable that we are spending the same fraction of national income on education as we were 40 years ago and we're spending double what we were on health". He said it was depressing how little had changed since he left the Department for Education, where he was chief economist until 2004. "Our system sets an awful lot of children up to fail. We know that the quarter or so of children who leave primary school not reaching the expected level will not reach the expected level at GCSE and we have no alternative for them. We continue to have a system which works quite well for those children who want to go on to university through the A-level route, but which remains inadequate and hopelessly complex for those who want to go on through vocational and skills education."

Schleicher, the global education guru who oversees the Pisa rankings and was once described by Gove as "the most important man in English education", explained that the British system "rewards average performance, rather than everybody's performance. If you are a school teacher in Japan, nobody looks at your average. They look at, 'Are all of your students succeeding?'" The UK, and particularly England, is increasingly an outlier compared with the rest of the world, he said. "It's quite a traditional school system and perhaps has become more traditional. Over the years most countries have gone in the opposite direction when it comes to curriculum design and implementation. The world no longer rewards people just for what they know – Google knows everything – but for what they can do with what they know."

The commission has seen many examples of excellence and innovation on school and college visits. There are extraordinary people doing inspiring work that is transforming young lives. Yet too often those on the frontline feel as if they are achieving their success despite not because of a system that has become overcentralised and inflexible. There are many good ways to run a school but the ideologues behave as if there is only one "true path" and do not trust the professionals to get on with their job. The "factory model" of education seems to be driven more by metrics and managerialism than inspiration or ideas, which is disempowering for both students and staff.

Lucy Kellaway, a former *Financial Times* columnist who now teaches in an inner city east London school and is a member of the commission, recalled an

economics lesson where a pupil asked a brilliant question about tax. "If I'd spent the rest of the lesson looking at that we would have learnt so much but I couldn't answer the question because we had to get through six more slides that would help them write perfect exam answers to questions on fiscal policy," she said. "I'm thinking all the time, 'I'm not going to teach them that because they don't need to know it.' I can feel that the exam system is disadvantaging my students. I think knowledge is really important but we've gone too far down that road now and our worship of exams is almost sinister." In her experience as a teacher, school is too often about "stuffing random facts into students" to prepare them for exams and curiosity has "gone out of the window". She said: "The pendulum swings much too far in both directions. Knowing the facts is really important but so is creativity and discovery. It should be possible to steer a middle line."

At regional round table meetings across the UK, the commission repeatedly heard professionals express their frustration about a curriculum and assessment system that is letting pupils down. In Bradford, Glyn Potts, a head teacher from Oldham, said children at his school, where more than 40 per cent of the pupils are disadvantaged, had suffered during the pandemic but added: "I don't believe there's a recovery needed; the system is designed wrong. Actually if we recover to what we had before Covid it would be a mistake." At the Eden Project in Cornwall, Lisa Mannall, chief executive of the Cornwall Education Learning Trust and the former regional schools commissioner for the South West, said: "We're educating children for a world that doesn't exist."

The way people shop, work, travel, bank and watch television has been utterly transformed over the past decade but schools have failed to keep pace. Instead of adapting to the 21st century, education remains stuck in the 20th and in some ways the 19th century. At the very moment when artificial intelligence is going to take over many routine tasks, education has become more robotic. Just as technology is offering more personalisation in life, schools have become increasingly homogenised.

Young people are more socially aware, independent and intellectually engaged than perhaps any previous generation. Yet, pupils who are used to organising climate change campaigns, curating their own Spotify playlists, creating their own eBay businesses and researching their own interests on YouTube are treated in school as passive recipients of knowledge rather than active learners. The rapid rise of online schooling during the pandemic showed the power of technology to boost learning but also highlighted the fact that British education is still in many ways an analogue system in a digital age. "It's as if it's still selling DVDs in the age of streaming and Netflix," the former Conservative education secretary Justine Greening said. It is time to set a new course, building on the successes of the previous reforms, to create an education system that is broader, more relevant, fairer and more rigorous.

The Times Education Commission, set up last June, has spent a year reviewing everything from early years provision right through to higher education and lifelong learning. It is the broadest inquiry ever held and the scope was ambitious but deliberately so because it is impossible to disentangle the constituent parts of the system.

With fortnightly evidence sessions, regional round table meetings, school visits, international trips, youth panels, parent focus groups and interviews, the commission has heard from more than 600 witnesses, including 13 of the people who have served as education secretary over the past 35 years and two former prime ministers. It has deliberately gone beyond the education and Westminster bubbles to consult business leaders, cultural figures and scientists as well as teachers, heads, college principals and vice-chancellors about what the country as a whole needs from its education system to thrive both now and in the future. The approach has been evidence-based and non-ideological, seeking to learn the lessons from the best examples in this country and abroad in a dispassionate, pragmatic fashion.

CASE STUDY

How Estonia does it: lessons from the best school system in Europe

In Estonia children learn robotics from the age of seven and teachers use virtual reality to bring geography, chemistry, history and languages to life. This tiny former Soviet state has the best education system in Europe, according to the Programme for International Student Assessment, run by the OECD.

Despite relatively low spending Estonia is among the top countries in the world in all three areas on which 15-year-olds are assessed: reading, mathematics and science. Its schools are also the best at promoting fairness and Estonian pupils are among the happiest in the OECD. Technology is one of the secrets of its success. Estonia sees itself as a start-up nation and 99 per cent of government services

are delivered online and the government invested early to ensure that all schools had access to devices and a good internet connection.

Most pupils use electronic timetables and exams are being moved online. Homework and school tests are set digitally. An entrepreneurial spirit runs through the system. Schools have a high degree of autonomy and there are no regular inspections. Schools are evaluated every three years through online tests for pupils and the authorities intervene only if there is a problem. "We trust our teachers and our teachers have a lot of autonomy," Liina Kersna, minister for education and research, told the commission.

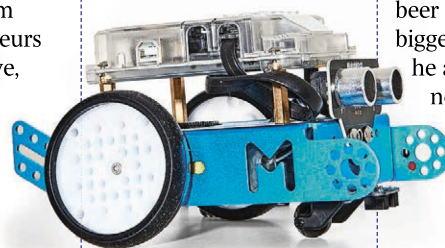
There are almost twice as many teachers per pupil in Estonia as in England. All have a masters degree and kindergarten teachers have a first degree.

Children in Estonia do not start school until they are seven but they are legally entitled to a kindergarten place from 18 months. School lunches are free, as are transport, textbooks and trips. Classes are mixed ability and pupils are not routinely separated into sets. Most schools have their own psychologist and exclusions are virtually unheard of. Most young people stay in education until 19.

Kersna explained that the curriculum was moving away from "knowledge and understanding" towards "implementation, analysis, synthesis and assessment", with more collaboration across subjects. There is an emphasis on problem-solving, critical thinking, values, citizenship, entrepreneurship and digital competence: the qualities that employers say they want.

At the end of their school career students are assessed formally only in Estonian, maths and a foreign language (most choose English) but it is compulsory for pupils to study humanities and sciences up to the age of 19.

What was so striking was that we were talking to highly successful people from many different worlds and they were almost unanimous that change is overdue and vital. The inventor Sir James Dyson told the commission that there was an urgent economic imperative for reform to the curriculum and assessment system to produce the entrepreneurs and engineers of the future. "Children are creative, they love building and making things … but as they get closer to GCSEs and A-levels all that is squashed out of them," he said. "It's all about rote-learning, not about using your imagination. The system doesn't measure creativity; it measures what you can remember of other people's facts."



His appeal for a wider set of skills and dispositions to be recognised and nurtured was echoed by the commissioner Lord Bilimoria, the founder of Cobra beer and president of the CBI. He said that it was "the biggest false economy" not to invest in education, but he also warned that just pouring more money in was not enough. "There's got to be a shift of mindset," he said. "We need to unleash the creative potential that lies within almost every child in this country. If it is that ability to be creative

and innovative that makes us more competitive as a country then we've got to turbo-charge that. We're not even scratching the surface of tapping into it."

The entrepreneur Sir Richard Branson, who is dyslexic, said too many children, particularly the most disadvantaged and those with special educational needs, were being failed by "one size fits all" schools. Putting less emphasis on exams and more on employment skills would be "better for the economy" and "better for the individual", he told the commission. "For countries that have already done it it is already giving them an economic boost."

The film producer Barbara Broccoli, who with her half-brother Michael G Wilson controls the James Bond film franchise, argued that the creative industries were the second largest contributor to GDP in the UK yet "creativity is actively discouraged" in schools. "That's a huge problem," she told the commission. "It's a problem for the economy, it's a problem socially, it's a problem for every aspect of our lives. I think the attitude has to change towards creativity. We need to embrace it. Everybody, whatever business you're in, is looking for people to think outside the box … When fashion or art is considered a hobby as opposed to a viable career path, we are robbing ourselves of talent."

The sculptor Sir Antony Gormley pointed out that his own successful career had been forged in his school's well-stocked art room. "It's not the acquisition of knowledge that is going to create the future; it is the learning of skills, of communication, collaboration, creativity and critical thinking," he said. To demonstrate that anyone can be creative, he said he throws his dinner party guests a ball of clay at the end of the meal and asks them to mould something.

The former footballer and pundit Gary Neville, who now sponsors a university, told us that the education system had to be reconnected to the modern workplace. "The curriculum needs ripping up," he said. "I don't think the curriculum has moved forward at all in relation to the skills that are required in 2021. There's no agility, there's no flexibility."

Others warned that the narrowness of the education on offer was undermining academic excellence. The classicist Dame Mary Beard described how young people arriving at Cambridge had changed since she started teaching forty years ago. "The assessment system is putting a brake on kids' explorations and achievements. Kids expect now that you will tell them what they have to do in order to get a good mark. It's 'I want to know what I do to get a first' instead of 'I want to explore this subject as widely as I possibly can until my head hurts.'"

The venture capitalist Dame Kate Bingham, who oversaw the successful vaccine procurement programme, argued that the system forced students to choose between humanities and sciences at too early an age. "I think it's a massive mistake because people are either funnelled down a humanities route, or into science," she said. "It makes no sense. There's no reason why we can't continue with a slightly more plural set of subjects at school."

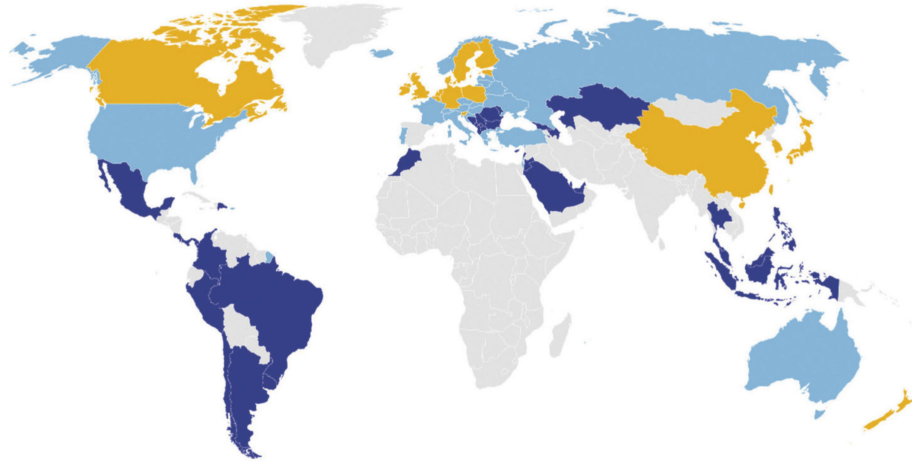
The neuroscientist Baroness Greenfield insisted that with the rise of fake news and online conspiracy theories it was crucial that young people were encouraged to debate, question and challenge. "Education shouldn't just be about imparting facts but more about how you handle facts, how you interpret the problems that you're inevitably going to face."

Several witnesses pointed out that the challenges

GLOBAL EDUCATION RANKINGS

The Programme for International Student Assessment is a worldwide study that evaluates 15-year-old students' performance in mathematics, science and reading. Higher scores reflect better educational attainment

< 450 | 450-500 | ≥ 500



Average scores for maths, science and reading are represented. Scores from China, Azerbaijan and Taiwan do not represent the entire country but specific urban centres. Source: OECD

> It's more important than ever that young people are taught not just about facts, but to be creative

of the modern age, from pandemics to climate change, did not fit into the traditional subject boxes. Sir Jeremy Farrar, director of the Wellcome Institute, said it was a mistake to force children to specialise so early. "The critical voices that you need are those people that have an ability to bring expertise across dimensions, rather than just within narrow dimensions," he said. "There's a pretty good acceptance in most areas that the English education system is really not fit for purpose and it's leaving behind a huge number of people. We keep going back to 1950s-style approaches, driven by politics and populism."

The best education systems around the world have already adapted to global trends. In Estonia schools focus on teaching pupils through what they call "21st-century competencies" including communication, collaboration, entrepreneurship and critical thinking. In Singapore the government has redesigned the curriculum to put more emphasis on innovation and problem-solving. In Shanghai two districts are trialling a new model of learning to boost creativity. All recognise that the world is changing at an astonishing rate and education needs to evolve.

The World Economic Forum has predicted that, by 2025, 85 million jobs will be displaced by the shift in the division of labour between humans and machines but 97 million new roles may emerge that are more adapted to fill the gaps left by the robots. The "fourth industrial revolution" brought about by the creation of the internet has not ended yet. The hyper-connectivity of the digital age speeds up innovation as trends spread instantly around the globe online. It took radio 38 years, television 13 years and the internet only 4 years to reach 50 million users. It is impossible to predict the jobs that will be available when today's primary pupils go out to work.

The next generation needs to be adaptable, inquisitive and empathetic. More than half the children who start school in September will live to be a hundred. They will have to retrain many times over the course of their long careers so it is more important than ever to inculcate a love of learning. Quirkiness

may become more appealing to employers than uniformity. Tom Fletcher, who was an ambassador and worked for three prime ministers before becoming principal of Hertford College in Oxford, described it in Darwinian terms. "Those who adapt faster will win and those who adapt slowest will lose," he said. "This is about survival."

The businesswoman Baroness Lane-Fox of Soho, a member of the commission, said there was a danger that schools were still 15 years out of date. "There's been a course correction towards more coding and I think that's misplaced because the machines are going to do the coding," she said. "We need to encourage the human skills. The ability to be critical about the world that is around us, and particularly the information in that world is vital. We need to make sure we are always maintaining the ability to direct the algorithms and intervene."

Former politicians seem to understand the urgency more than present ones. Blair, who promised to make "education, education, education" his priority as prime minister, said it was even more important to be radical now than it was 25 years ago. "We've got to refocus on education as the key priority for building a better, more successful, more unified country in the next decade," he told the commission. "Education's an area where I'd be teaching different things in schools in different ways. I think probably the whole concept of the exam system is due a complete overhaul. As a result of the way the world is changing, it's more important than ever before that young people are taught not just about facts, but to be creative, to think for themselves, to be mindful of others, to be emotionally as well as intellectually intelligent. All of these things mean we need to change the way that we educate."

His predecessor as prime minister, Sir John Major, struck a similar tone. "Over past decades, too much time and energy has been spent in arguing about the system of education — grammar or comprehensive, private or state, academy or technical — rather than its quality," he said. "Public education remains underfunded; class sizes in the state sector remain far too large; and the teaching profession is no longer given the respect and social cachet it deserves."

The pandemic has created a once-in-a-generation chance to change course. It is, Lucy Heller, the chief executive of the high-performing academy chain Ark and a commissioner, said, a "reset moment" for education. "I hope that we can use the 'pause' that's been created by the pandemic to rethink certain fundamental things, to have a proper debate of a kind that we very rarely do, because sometimes it feels like a Kabuki drama, with everybody striking poses."

The world is in flux. There is an appetite for reform across a remarkable cross-section of society. Even many of those working in schools, who are exhausted by the last gruelling two years, do not want to miss the chance to go in a new direction. A survey of teachers for the commission by Teacher Tapp found that 58 per cent thought that the pandemic had created a good opportunity to rethink and make changes to the education system, compared with 40 per cent who said that it had caused enough disruption and this was not the time for reform.

It is time to take the party politics out of education and move beyond the tired ideological divisions that have for too long driven what and how children learn and devise a system based on the national interest rather than ministerial whim. Education should combine skills and knowledge; character and qualifications; oracy and literacy; emotional as well as intellectual understanding. This is not about dumbing down but about raising standards by returning to the true, broader purpose of education.

3%

Estimated rise in education spending from 2010 to 2025

There should be a 15-year strategy for education, drawn up in consultation with business leaders, scientists, cultural figures, local politicians and civic leaders to determine what the nation needs rather than what is in one party's short-term political interest. Just as the NHS 10-year plan allows the health service to take strategic decisions, so a 15-year plan for education would give sufficient time for reform to bed in and cover the full cycle of a single cohort of pupils from four to nineteen.

The strategy could be monitored by a small independent body, similar to the Office for Budgetary Responsibility, to report annually on progress against targets, keep an eye on standards and publish data. Education is too important to be a political football and there is a precedent for cross-party collaboration in the creation of academies and the introduction of student tuition fees. Other long-term policies, such as pensions, have also been dealt with on this basis. In Estonia, the best education system in Europe, the 15-year plan to 2035, which was agreed by all parties, is seen as crucial to the country's success.

Gunda Tire, who manages the Pisa programme there, said: "It's a problem if every time a government comes in they have their own plan and want to change everything. If you keep starting from scratch, it will be chaos. Education is a thing that takes time."

In the present financial climate the answer cannot lie in simply spending more money, but in reimagining what the system does and using technology to personalise learning and reduce teacher workload. The commission does not believe that there is a "magic money tree" that can be shaken to shower schools and colleges with cash, but it has identified some specific additional funding that should accompany reform. Lord Johnson of Marylebone, a former universities minister, said: "People are feeling that it is education's turn to receive a financial uplift in funding."

We would urge the Treasury to think of education expenditure as an investment in the country's future. As Major, also a former chancellor of the exchequer, argued in his evidence, it should be seen "as capital investment, on the basis that its effect will linger for a lifetime" and improvements to education "will yield a more efficient economy, higher standards of living and behaviour, and much lower social costs. It will also lead to a more enriched society." The funding of "human capital" does not fit within three-year spending cycles any more than does the commitment to a big infrastructure project.

The following chapters will set out a series of recommendations to create a broader and more balanced education system for the 21st century. There are proposals for reform of early years education, a transformed curriculum, a new assessment system, more valued further education and revamped higher education. The commission has held round-table meetings in Scotland, Wales and Northern Ireland as well as England and we believe that, while many of the recommendations are specific to England, several of them could apply to all the nations. In every case, the proposals are evidence-based, where possible they are costed and most draw on successful initiatives that are already working somewhere in the world. Taken together, these recommendations would raise the bar across all aspects of education and truly "level up" the country. It is only by drawing out the talent of every child that we will unlock the country's full economic potential.

1 in 5

22% of adults still lack the skills to take part in the digital world

1 2 3 4 5 6 7 8 9 10

SOCIAL MOBILITY & LEVELLING UP

THE FIRST THOUSAND DAYS

Inequalities are ingrained from an early age and preschool education is crucial but overlooked in this country. Could it provide part of the answer for young people?

Talent is everywhere but opportunity is not and the education system is doing too little to redress the balance. It is shameful that disadvantaged pupils are on average more than 18 months behind their wealthier peers when they take their GCSEs and that the persistently poor are almost two years behind the comfortably off. It is a tragedy that 40 per cent of this gap emerges before children even get to school.

There are also shocking regional discrepancies in educational outcomes. In Westminster poorer pupils are 0.5 months behind their richer classmates and in Redbridge 2.7 months but in Blackpool disadvantaged children are 26.3 months behind and in Plymouth it is 24.5 months. Provision is patchy, with the most deprived areas often the least well served by the school system. Primary pupils in Yorkshire and the Humber, the East Midlands, and the South West are 12 times as likely to live in a local authority with an above-average share of pupils attending an underperforming school as their counterparts in London. These pupils' lives have completely different trajectories. Only 17 per cent of disadvantaged children from the South West go to university, compared with 45 per cent of those growing up in London.

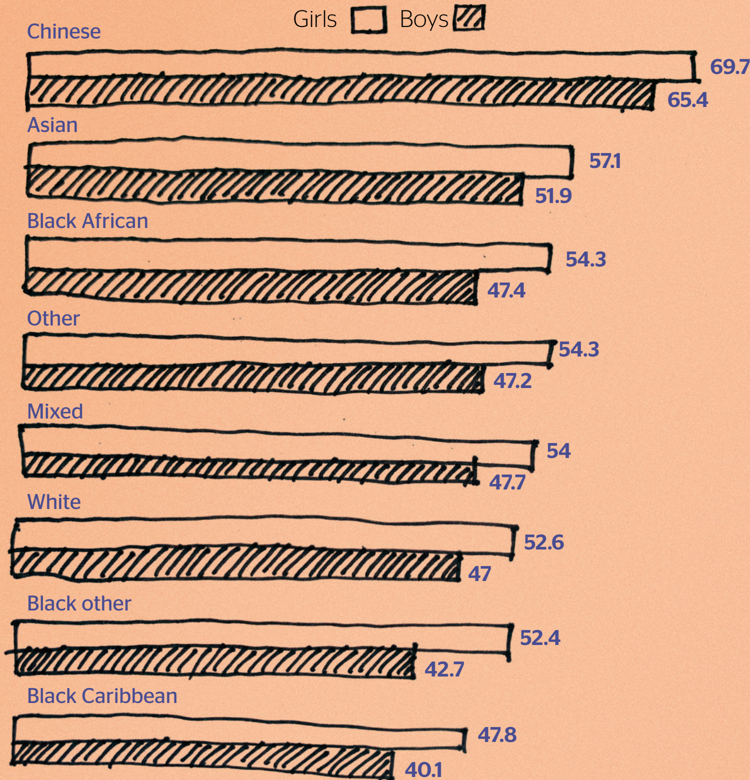
Lee Elliot Major, professor of social mobility at Exeter University, told the commission: "The inequalities in the education system were persistent and stark before the pandemic. If you look over recent decades I think we've failed, basically, to produce a level playing field in education. Before the pandemic, our attempts to narrow the attainment gaps between poor children and the rest were stalling. The pandemic has exacerbated and exposed inequalities that were already there."

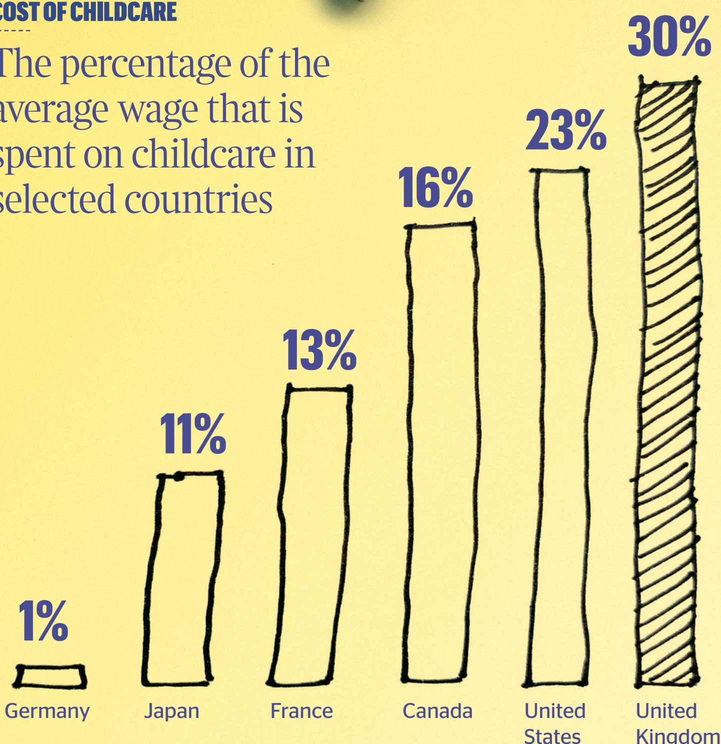
These levels of inequality are an economic disaster as well as a social disgrace at a time when the country needs to harness all its potential in order to be internationally competitive. An analysis by the consultancy Oxera for the commission found that there would be a £45 billion boost to the economy in the long term if social mobility in Britain reached the western European average. The analysts said that the figure, which is the equivalent of £670 per person, was a conservative estimate and the total economic impact was likely to be far higher.

Baroness Shafik, director of the London School of Economics and a former deputy governor of the Bank of England, spoke of the "Lost Einsteins", the missing geniuses of their generation whose potential was being wasted by a flawed and unfair education system. One study in the US found that if this group invented at the same rate as white men from high-income families there would be four times as many inventors in America, creating billions of dollars in economic growth. There is a similar problem in Britain, where it typically takes five generations for someone to go from the bottom to the middle of income distribution. In Denmark it takes two. "The lost productivity and innovation in our societies is huge," Shafik said. "And all the research shows that if you really want to equalise opportunity, the lowest-cost interventions are before anyone ever gets to school. Part of a shift in the social contract is getting people to realise that the years zero to three are not just the responsibility of families; they are too important to society to leave it just to families. Some families manage perfectly well, but a lot don't."

If the government's promise to "level up" the disadvantaged parts of society is to mean anything then it must be about more than local bus routes and new metro mayors. There should be a laser-like focus on education and in particular the provision for children in the crucial earliest years. Nearly a third of five-year-olds are not reaching a good level of development and children are already 4.6 months behind their richer peers by the time they start school. Their futures are being determined before they get anywhere near a classroom.

A primary head from a deprived town in Nottinghamshire described how some children were starting school unable to say their own name. "We've got about 50 per cent of the children in reception and nursery who are not toilet-trained. We have to





employ care workers just to change nappies. We've got children who are still drinking from bottles with teats when they start school. They are four years old and their language will include the word 'bot-bot', because that's their communication for 'can I have a drink please?' We're seeing children coming in still on baby food. We had one child arrive having had 14 teeth removed. I have a parent who brings their child to school in a shopping trolley because it's the cheapest mode of transport." She said her school was spending so much time on basic care that there was little time for literacy or numeracy. "We are parenting in so many different ways. I need to do an assembly on eating with a knife and fork because the children will eat a full Sunday dinner with their hands. We're not teaching them to write their names, we're teaching them to scribble. Of course, that is impacting on their learning, because our day is: 'change nappies, clean teeth, scribbling'."

This dystopian reality may be an extreme example but it is by no means unique. The commission heard reports of three-year-olds unable to walk properly because their muscles had not developed after spending days sitting in front of the television and five-year-olds speaking with an American accent, mimicking the cartoon characters they had been watching. The lockdowns have only made a bad situation worse. A YouGov poll of teachers by the early years charity Kindred Squared found that the number of pupils starting in reception who were not ready for school had risen to 46 per cent in 2020 from 35 per cent the previous year.

Ministers are nervous of being seen to interfere in family life but children are paying such a heavy price that the government must get over its squeamishness. Struggling parents need more help to ensure that all children are ready for school, including parenting classes, targeted home visits and drop-in centres. There should be a public information campaign, similar to the "Five a Day" health initiative to emphasise the importance of talking to and playing with your child. The social policy expert Baroness Casey of Blackstock, who has worked for five prime ministers, said: "Education is one of the ways out of poverty and so is family. Where you have both of those things working well, you see people thrive and where you have one of those things not working effectively, sometimes one can override the other. I'm a great believer in family intervention. Some of this is about resources, but it's also about determination and joined-up working."

This is not nanny-statism, it is responsible government. Dame Sally Coates, a former superhead who is now director of academies at United Learning, told her fellow commissioners: "We have to step off the idea of not talking about what happens in the home. It's absolutely fundamental, and the more we can do to work closely with parents, the more we can educate parents, the more we can get involved from pregnancy, the better."

In many areas, schools are the natural institutions to co-ordinate this work and some are already doing so. Reach Academy, in the deprived west London suburb of Feltham, holds antenatal classes, yoga sessions and "walk and talk" groups for expectant mothers, the families that most need support being referred by health visitors. Once a child is born the school offers baby massage classes, parenting courses, relationship guidance and play groups. "If we don't get involved right at the start then we are playing catch ▸▸

CASE STUDY

If you go down to the woods today you might find a Finnish nursery

Deep in the pine forest, tiny children wearing brightly coloured bobble hats form a circle in the snow. It is time for maths at the Kanava nursery in Helsinki, Finland, and the teacher leads a musical counting game.

When the song is over, the six year olds sit down in a clearing and begin to divide small cubes into factors of eight. It is not easy with their thick gloves on but they persevere and have soon achieved the task. A woodpecker taps against a tree in the distance and the sun glistens on the snow as the children run around to warm up.

The children at this kindergarten, aged between one and six, spend most of the time outside whatever the weather. Their mornings, and often their afternoons too, are devoted to exploring and learning in the forest. Between lessons in the snow they climb trees, hang from branches, throw sticks and walk along fallen trunks.

In Finland formal education does not start until the age of seven but learning begins long before that. These children already know the difference between a pine tree and a birch. They can identify birds from their song and understand which mushrooms are poisonous. They have learnt about shapes, sizes and fractions by looking at leaves, pine cones and needles. "We try to use whatever is in nature," Saskia Lamilla, their teacher, said. "We make smoothies with the berries … I've never met a child who this kind of learning doesn't suit. It's more effortless."

The only time the class does not go outside is if it is windy because a tree might fall. "We don't torture the kids but we do go out in every weather so they get used to it," Lamilla said.

The early years have always been taken seriously in Finland. Since the 1930s every mother of a newborn baby has received a cardboard box filled with clothes, sheets, toys and nappies. The box itself is just the right size for a newborn to sleep in. Over the past decade the focus has shifted from social support and parental leave towards child development.

up with children throughout their school careers," Ed Vainker, the chief executive, explained. "In our nursery we can see a huge difference between children even at two or three, based on their earliest experiences."

The pioneering "cradle-to-career" model, which also includes an all-through school from 4 to 18, is already improving outcomes for the most disadvantaged pupils and Reach is working with another 22 schools around the country that want to adopt a similar programme. There is scope for this approach to be used more widely but most of the early years work is funded by philanthropic donations. "Public policy is a long way behind the science," Vainker said. "We now know how important those first 1,001 days are, starting at conception and the impact of toxic stress on brain development, but the funding hasn't caught up."

The scientific evidence is overwhelming. What happens in the first thousand days of life, and even in the womb, is critical to outcomes later in life. At that stage of development the brain is changing fast and the crucial connections that form depend on the child's environment, experiences and relationships. Researchers found that babies who had suffered extreme emotional deprivation in the brutal Romanian orphanages that emerged under the dictator Ceausescu had brains that were 8.6 per cent smaller than other people's. As adults the Romanian orphans also typically had lower IQs and higher rates of attention deficit hyperactivity disorder, anxiety and depression.

Genes play a role in determining future success, but context also matters. The relationship between parent and child is pivotal but the state can make a difference in even the most troubled families.

The groundbreaking HighScope Perry Preschool Project, a longitudinal study in the United States, demonstrated that high-quality early intervention can make a dramatic difference to outcomes. The project,

13%

The estimated return on investment in early years education

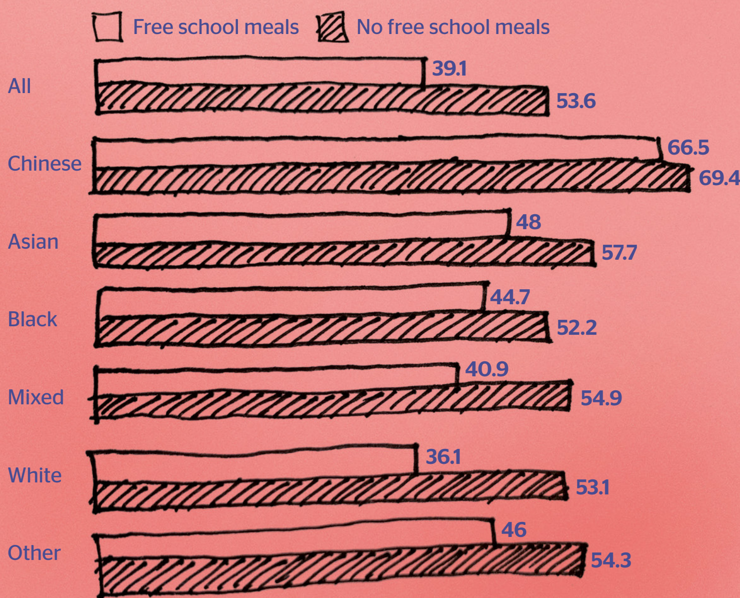
which began in the 1960s, found that disadvantaged African-American children who were enrolled in the preschool programme were more likely to graduate from high school, hold down a job and have higher earnings; they were also less likely to become pregnant as a teenager or get involved in crime. The results were unambiguous: 77 per cent of those who had been in the preschool programme graduated from high school, compared with only 60 per cent of those who did not and 36 per cent of the participants had been arrested five times by the age of 40, compared with 55 per cent of the control group. The benefits of early intervention continued throughout their lives and into the next generation with 67 per cent of the participants' children completing high school without suspension, compared with 40 per cent of those in the control group.

It is possible to stop the negative behaviour patterns cascading down the generations. Angela Rayner, the Labour deputy leader, explained that, having never been shown love by her bipolar mother as a child, it was only when she went to a Sure Start nursery as a teenage single mum that she realised that she needed to hug her son Ryan. "I thought being a parent was making sure your children were clean and being fed, making sure they go to bed on time, making sure that the house is tidy." Years later when she saw Ryan pick up his own daughter and cuddle her, she recalled: "I got really tearful. It was so natural for him just to scoop up his daughter and say all the things like, 'I love you,' and, 'You're amazing.' And I thought, 'You've broken that link.' "

The long-term benefit to individuals and society of such interventions is enormous. The Nobel prize-winning American economist James Heckman has calculated that there is a 13 per cent return on investment in the early years as a result of better educational, health and social outcomes. Conversely, the consequences of ignoring this stage of development can be dire. Research for the Duchess of Cambridge's Centre for Early Childhood, conducted with the London School of Economics, found that the social cost of failing to intervene early enough in children's lives is more than £16 billion a year in England because of higher rates of crime, unemployment and mental illness that could have been avoided. The duchess has described the early years as the social equivalent of climate change. They "are not simply about how we raise our children. They are about the society we will become."

Brett Wigdortz, who 20 years ago founded Teach First, a charity that parachutes high-flying graduates into the most deprived schools in Britain, has now founded a similar scheme for childminders called Tiney. Having initially assumed that secondary schools were the most important influence on pupils, then moved on to primaries, he has now concluded that early years education is "crucial to close the education gap and needs reform".

There is a reason many of the most successful education systems in the world dedicate huge resources to what happens before children even get to school. In Estonia and Finland nursery places are heavily subsidised and kindergarten staff are highly trained. Estonians compare education to a tree that depends on the strength of its roots and say that the focus on early years has both narrowed social divides and improved student wellbeing. Li Andersson, the Finnish minister of education, told the commission that any government wanting to equalise opportunity between rich and poor had to ensure that every child gets the best start in life. "We have a lot of



research data, both national and international, that really stresses how important it is," she said. "If we have high-quality early childhood education and care it will have a positive impact on later learning results, especially for children who come from a socioeconomic background where their parents might not be very well-educated." In this country, however, early years provision is too often treated as a babysitting service designed to help parents to return to work, rather than the first crucial steps in education. While nursery teachers in Finland and Estonia are respected as educators and are required to have a degree, in England they are frequently paid less than supermarket staff and have minimal qualifications.

The funding system is overly complex and disproportionately benefits wealthier families. Working parents of three and four year olds are eligible for 30 hours of government-funded childcare if they have a household income of up £200,000, but unemployed parents can get only 15 hours. As a result, 70 per cent of those eligible for the extra free hours are in the top half of the earnings distribution and many of the most vulnerable children are not getting the extra support they need. Instead of driving social mobility, the policy is actively reinforcing inequality. At Reach, the gap between advantaged and disadvantaged children rose from three months to six months over the course of a year after the extra free hours were introduced for working families.

Nursery places are underfunded so providers have to cross-subsidise by charging wealthier parents more for additional hours. Some do not have that option and in the year to March 2021, 442 nurseries shut, the highest number of closures being in the poorest areas. The cost has rocketed for parents and the UK has the third most expensive childcare system in the world, behind only Slovakia and Switzerland. A third of parents say that their childcare costs are higher than their rent or mortgage and the Department for Education's own data shows that more than a quarter of families find it difficult to meet their childcare costs. Many nurseries charge extra for lunch and, although good nutrition has been shown to improve educational outcomes, the commission heard accounts of poorer children eating a packet of crisps while their richer classmates sat down to a hot meal. That is totally wrong.

Rishi Sunak, the chancellor, has acknowledged that the first years of a child's life are the most important but his flagship policy involves funding 75 "family hubs", when about a thousand Sure Start centres, which offered support for parents as well as preschool provision, have closed.

The evidence presented to the commission suggests that early years provision needs additional investment, backed by reform, in order to create a fairer education system overall. There are eight programmes that support childcare spread across three Whitehall departments. The money should be brought together into a single pot managed by the Department for Education to improve efficiency and make it easier for families to understand. Funding should be targeted at the most disadvantaged and focused on education and child development.

The 30-hour entitlement should be extended to non-working parents to ensure that the children with the least support at home get it in a professional setting. According to the Institue for Fiscal Studies, this would raise spending by about £250 million a year, if all three and four year olds were eligible, or £165 million if only disadvantaged children got the extra hours. But the costs could be clawed back by lowering the upper earnings threshold for working parents to be eligible. Removing the 30-hour entitlement from families where at least one parent earns more than £50,000 a year would save about £100 million a year. The Treasury could make the policy cost-neutral if it took the threshold below £40,000, although it would be a brave chancellor who risked the wrath of Mumsnet during a cost-of-living crisis.

> "We know how important the first 1,001 days are, starting at conception … but the funding hasn't caught up

The early years pupil premium, £302 a year, should be brought into line with primary school rates of £1,345. The cost of giving extra support does not instantly rise when children get to school and the commission agrees with the Education Policy Institute that the lower early years rate is not rational. Raising it, at an estimated cost of £130 million a year, would make it easier for nurseries to break even, reduce the reliance on cross-subsidy and allow providers to pay their workers a more competitive wage.

Expanding access to early years provision must also, though, go hand in hand with improving its quality. Instead of reducing the ratio of staff to children to bring down costs there should be a better career structure, professional development and training for early years teachers to develop a well-qualified workforce with the appropriate knowledge, skills and experience to deliver high-quality early education. The investment will be repaid many times over in the longer term.

Every child should get a "school readiness card" at the end of nursery, describing their skills and development. This happens in Estonia and ensures that those who need extra support can then be referred to a specialist, such as a speech therapist or autism adviser, before they even start formal education. More generally, there must be greater co-ordination between government agencies to identify problems early and stop the most vulnerable falling through the gaps. A unique pupil number, allocated to each child at birth, would encourage greater data-sharing between education, health and social services. That would increase early diagnosis of eyesight or hearing problems and special educational needs and streamline support while also making it harder for pupils to "disappear" from the system as they get older.

At the moment children are given an NHS number when they are born and are allocated a separate number when they get to school but greater co-ordination has been shown to have a tangible impact on outcomes at little extra cost. In Bradford, literacy rates have been significantly improved by cross-checking NHS and school records. They showed that a third of pupils who had poor eyesight diagnosed were not going to the optician to get spectacles, which meant that they struggled to read and write. Under the "glasses for classes" programme, children are now given a vision test in the reception class and those who need spectacles are automatically given two free pairs: one to keep in school and one to take home. In 2017, when the scheme was introduced, pupils were 6.2 percentage points behind the national average in reading at the end of primary school and within two years that had halved to 3.1 percentage points.

Instead of levelling the playing field, the education system is too often entrenching divides. A third of children leave primary school having failed to reach the expected standard in reading, writing and maths. Reading is the key that unlocks everything else in ▸▸

CASE STUDY

The 'cradle-to-career' approach to teaching that starts in the womb

At the Reach Foundation in Feltham, education begins in the womb. The school runs antenatal classes, yoga sessions and walking groups for expectant mothers. Once children are born, new parents are invited to baby massage classes, parenting courses, relationship guidance and play groups, with the families most in need of support referred by health visitors and midwives. "If we don't get involved right at the start then we are playing catch up with children throughout their school careers," Ed Vainker, the chief executive, said. "In our nursery we can see a huge difference between children even at two or three, based on their earliest experiences."

The school, in a deprived suburb of west London near Heathrow, is pioneering a "cradle-to-career" model of education, which includes a nursery, all-through school and sixth form college as well as pregnancy support. The celebrity chef Jacob Kenedy, proprietor of the Soho restaurant Bocca Di Lupo, is involved with the post-16 catering course and in a neat synergy, staff at the nursery can take a foundation degree in childcare and parents are encouraged to start adult education. Reach is now working with 22 schools around the country that want to adopt a similar approach.

At the Feltham

22

The number of schools keen to adopt a similar approach to Reach

Academy, which received a visit from the Duchess of Cambridge, above, more than half the children are on free school meals, a measure of poverty. Vainker said that intervening early was the key to equalising educational outcomes later in life.

There are 200 mothers with babies accessing Reach services, as well as 900 pupils aged from 4 to 18. "We get our first referrals at 20

weeks [of pregnancy]," Vainker said. "We say to the professionals if you're concerned about a parent then do refer them. There are different vulnerabilities, but the key one is isolation. It's crazy how much the quality of the child's experience in the first three years is conditioned by the mental health and wellbeing of the mother. Our experience is that the vast majority of parents who are referred are keen to take up some level of support."

> If we don't get involved right at the start then we are playing catch-up

Schools, he suggested, should be "anchor institutions", the places where community is built. "They need to be outward facing and see themselves as able to affect change." He said that fewer parents had their extended family living close by than would have been the case fifty years ago.

"Middle-class parents lean very heavily on their NCT [National Childbirth Trust] group, but that isn't afforded to large swathes of the population. We have increasing numbers of parents who are requesting to join."

Reach is already seeing the benefits. "We worked with a boy who started reception and he couldn't speak at all. At the end of year 6, he got the expected standard in maths. In year 7, he got the expected standard in reading. He's now in year 9 and he's pretty much there in writing. We're hoping he will go to university and that's our aspiration for him but we probably spend £10,000 to £15,000 a year just on him. We met his sister the same day, when she was 18 months old. We made sure that she went to nursery when she was two, we helped Mum do a course and get into work, we bought toys for the house. His sister is top of her class, she's in year 7 and we have never spent a penny of marginal funding on her."

education but one in eight primary schools does not have a library and children on free school meals are twice as likely to be deprived of that valuable resource. Cressida Cowell, the children's laureate and author of the *How To Train Your Dragon* books, told the commission that it was appalling that "libraries are statutory in prisons but not in schools" and she is right.

Every primary school should have a library. The Book Trust estimates that £100 million a year would enable every primary in England to invest in books, expertise and space. The cost could be reduced by asking parents whose children have grown up to recycle favourites. Why not put Book Banks outside schools for donations or ask for contributions on World Book Day? As Sir Michael Morpurgo argued, the priority must be to create a love of reading for its own sake. "There must be space in the curriculum at the end of each day for storytelling and reading, no questions or tests afterwards," he said. "This is the most important enabling time of any school day. Get this right and the pathway opens up ahead."

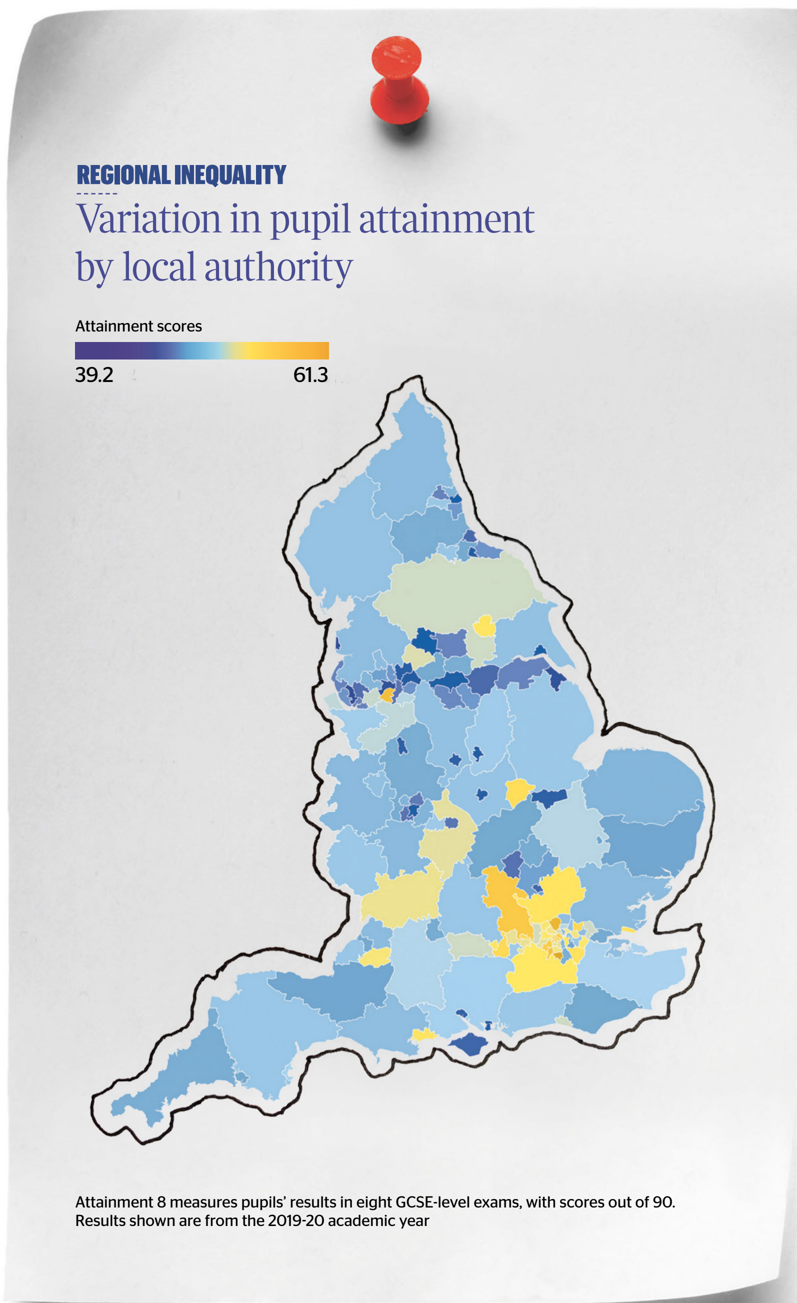
The pandemic has left many struggling to catch up on lost learning but some pupils will always need more support than others. For the gap between rich and poor to be closed tutoring will need to become a permanent fixture. The government has acknowledged as much but the £5 billion National Tutoring Programme, set up after the coronavirus crisis, has been costly, poorly managed and is failing to help the most disadvantaged. It would be better and cheaper to create an army of student tutors to deliver tailored support under a university-led volunteer service. As well as helping pupils who have fallen behind, the undergraduates could give additional sessions in the run-up to exams. They must be properly trained and should earn credit towards their degree for tutoring, either in person or online, in local schools.

Worcester University already offers a diploma in tutoring and is introducing a new course from September as an optional module for undergraduate degrees. Exeter University is also piloting a student tutoring programme and others are interested. In one trial pupil attainment increased by more than three months over the course of a year, disadvantaged pupils benefiting the most. Lee Elliot Major, the country's first professor of social mobility, said that a national programme could be delivered by hundreds of universities across the country, involving tens of thousands of students and benefiting hundreds of thousands of pupils every year. "This is a true levelling-up policy," he said. "We know there's been a boom in private tutoring fuelled mainly by middle-class parents. This is about giving similar opportunities to children from families who might not be able to afford this extra help."

The scheme could boost recruitment to teaching and undergraduates would benefit too. Dame Nancy Rothwell, whose own university, Manchester, supports undergraduate students to volunteer as tutors, said: "University students can gain valuable experience and training and enhance their employability prospects, even if they do not choose a career in teaching, and our students find it very rewarding." The student tutors would also become role models for young people who might not previously have considered going to university. In the Netherlands, the commission heard that undergraduates often went back to their old school to help out in the holidays and that this had helped to boost aspiration among the younger pupils, who see what others from their background had achieved.

This may be as important as what is learnt in the tutoring sessions themselves. There is clearly a correlation between disadvantage and low attainment but economic poverty is not the only, or perhaps even the main cause, of the gap. This is demonstrated vividly by the very different outcomes for various demographic groups growing up with similar levels of deprivation. Girls consistently do better than boys at school and only 18 per cent of white British pupils on free school meals achieved grade 5 in English and maths, compared with 23 per cent of all pupils on free school meals. Only 16 per cent of disadvantaged white pupils get university places, compared with 32 per cent of black Caribbean pupils, 59 per cent of black African and Bangladeshi pupils and 73 per cent of Chinese pupils. The improved results in London in recent years are at least partly to do with high levels of first and second generation immigrant families. White working-class boys are falling behind at every stage, with almost a million students affected. The data indicates that poverty of aspiration may be more damaging than physical deprivation.

The actor Eddie Marsan, who grew up on a council estate in Bethnal Green, east London, recalled that



Attainment 8 measures pupils' results in eight GCSE-level exams, with scores out of 90. Results shown are from the 2019-20 academic year

the first time he read a book for pleasure at the age of 16 his father grabbed it and threw it across the room. "The things that held me back were cultural," he told the commission. "In my experience, [for] the white working class, because they'd experienced poverty over many generations, everything was short term, economically, educationally, morally so there was no way of thinking beyond the next week or sometimes the next day because you couldn't plan that far ahead. That began to influence the way you thought about all aspects of your life." Clementine Stewart, director of learning at Chatsworth Schools, described a "parent-imposed limitation of aspiration" in some communities. She recalled that, when she was working as a teacher, "One dad shouted at me because I'd been teaching his son to read and he'd been telling his son that reading was gay, and boys didn't read. These children aren't spoken to, so by the time they get to school they can't react in a normal way. There is just a generational apathy and because a lot of their parents have had such a woeful experience of education they then put that on to their children."

This suggests that another solution lies in showing pupils, and their families, the relevance and practical benefit of education. Mary-Claire Travers, a researcher at the UCL Institute of Education and author of *White Working-Class Boys*, said it was not that parents did not want the best for their children "but their own experience is very limited. A lot of them haven't even left the council estate that they live on. They don't know what's down the road, much less what's out in the big world. The fathers have got this thing about being head of the family; the thought of their sons doing better than them is threatening. But a teacher can make a difference to these children. One boy said when he and his mother went to the year 5 parent-teacher evening, the teacher said to his mother, 'You'd better start saving for David's university fund.' Hearing that changed his life. The system has to have something that is an information valve."

Pupils from all backgrounds have to be able to visualise how school can lead them to a better life, whether that is further or higher education or a job. For many disadvantaged pupils that is not the case. The system values one form of academic success, leaving those who do not excel in exams feeling disengaged. Andrew Cropley, the principal of West Nottinghamshire College in Mansfield, said education had become so narrow that some students felt "completely disenfranchised and they're labelled all the time: you're failing, you're not going to get your results. We test them so much but on the other hand we're debilitating them. They're corralled through the curriculum."

The existence of the "forgotten third" of students who do not pass English and maths GCSE at 16 is baked into the system as an inevitable consequence of the grade boundaries, set to ensure that a certain proportion of pupils get each mark every year. One head teacher said that it was the modern-day equivalent of "the dunce's cap". Geoff Barton, general secretary of the head teachers' union the Association of School and College Leaders, recalled a conversation with a student in a further education college. "He said to me, 'So I now understand that for the two thirds to be deemed a success, I have to be deemed a failure.' " Barton, himself a former head teacher, explained: "Our education system works well for about 70 per cent of children. The trouble is, if you're one of the 30 per cent, it is a national scandal."

> "One dad shouted at me because I'd been teaching his son to read

Some blame the existence of fee-paying private schools for the social divides in education but the OECD's Andreas Schleicher said that the real problem was the failure of the state system to get the best out of every pupil. "There is a large fairness gap but it's not so much between schools," he said. "The big social gaps are happening within schools. Many students … fall through the cracks … you have more social segregation within the [state] school system than between [state] and private schools. And because it goes unnoticed, very few people do something about it. Other education systems are much more aware of those differences between individual students."

For the prime minister's "levelling-up" mantra to become a reality, those differences can no longer be ignored. The system needs to be built around working out what children can do rather than defining them through what they cannot do. The curriculum has to feel relevant to young people in all parts of the country and from every background.

Education should be turned from something passive, that is done to children, into something empowering that allows all pupils to feel that they are a success. Every child must be noticed and none should be written off.

SCHOOL READY

On average, primary school teachers report that 46% of children are not 'school ready'. These are the top reasons they believe this to be the case

Less time spent at nurseries because of lockdown restrictions

62%

Parents spent more time on electronic devices than with children

56%

Parents did not value education themselves

46%

Parents unclear of expectation of what 'school-ready' looks like

45%

Reduced reading to children

33%

Children spent more time on their own at home

32%

Parents for whom English is a second language

19%

Variable quality of nursery education

17%

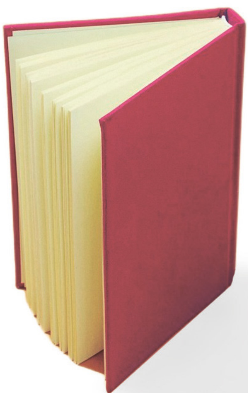
RIGID AND INFLEXIBLE

Most schools are constrained by an outdated rubric imposed by Whitehall that has no room for regional variation and takes little account of employers' needs

Blackpool is showing how a "left behind" area can embrace new thinking to start to turn around its fortunes. The Lancashire coastal resort has long been a symbol of social and economic decline, a town on the margins both physically and metaphorically. Unemployment and welfare dependency are high. The resort has the lowest life expectancy in the country and the highest rate of drug deaths. Two thirds of adults are above a healthy weight, nearly a third are obese and in 2019 only about a quarter of children achieved two good GCSEs in English and maths.

Now, though, the schools are starting to improve and a transatlantic superfast fibre-optic cable has been installed under the sea, which means that data can travel faster to New York from Lancashire than it can from London. Blackpool wants to reinvent itself as "Silicon Sands", a digital hub for technology businesses. But, with bitter irony, local education leaders say that their efforts are being thwarted by the inflexibility and narrowness of the national curriculum. The computer science GCSE course is so heavily focused on coding that in most schools people can take it only if they are in the top set for maths. There is a similar problem with the A-level curriculum and only 5 per cent of students taking the subject are girls.

Frank Norris, chairman of the Blackpool Education Improvement Board and an adviser to the Northern Powerhouse Partnership, told the commission: "It's such a wasted opportunity. Many more of the students are capable of doing the new jobs that will become available but there's absolutely no flexibility in the qualification. Businesses are looking for creativity and collaborative working; they want people who can challenge or see things in a different way but we have created an exam sausage machine that doesn't assess these things." Already the better-paid digital jobs are going elsewhere. Ben Murphy, chief digital officer for the IT company Atos, one of the biggest local employers, said students in Blackpool were not coming out of education with the right mindset or skills to fill the roles that will be created through the transatlantic cable. "You have got the oil pipeline," he said bluntly, "but have you got the refinery here?"



That disconnection between what children are learning at school and the skills employers need is symptomatic of a wider problem. A bloated and outdated national curriculum, imposed from Whitehall, allows too little scope for regional variation to take account of local business needs. Lord O'Neill of Gatley, the former chairman of Goldman Sachs Asset Management who helped to set up the Northern Powerhouse Partnership as a Treasury minister under George Osborne, told the commission: "The Department for Education has a far too centralised national approach to everything. Levelling up can mean endless things but ultimately creating opportunity for all is what it has to be about and the education system is hindering that because it's too rigid. It's tragic."

Like the tax code, which grows inexorably as everybody lobbies for additions and carve outs, the national curriculum has swollen to almost 80,000 words: longer than *Harry Potter and the Philosopher's Stone*. In theory free schools are allowed to ignore it but in reality almost all follow the national rubric because the exam system demands it and they fear that they will be punished by the all-powerful Ofsted if they deviate from the norm.

The content sometimes seems obscure. During the pandemic parents were baffled to discover that their children were learning all about something called fronted adverbials. Even Nadhim Zahawi, the education secretary, later admitted that he had no idea what they were. With rows over decolonisation, empire and gender, the curriculum has been dragged into the culture wars by both sides of the political debate. Bright, mobile graduates who have gone into teaching full of idealism are quitting because they feel infantilised and disempowered. School seems irrelevant to too many pupils, who cannot see a route from education to employment.

CASE STUDY

Picture this: a vocational school for film and television

Students at the London Screen Academy have had masterclasses from some of the biggest names in cinema including the scriptwriter Richard Curtis, the director Wes Anderson and the actors Gillian Anderson and Lena Dunham.

This state sixth form in Islington, north London, was founded by the biggest names in the British film industry to pioneer a new form of elite vocational education for students who want to work in film or television.

Pupils take a diploma certified by the University of the Arts, London, which is the equivalent of three A-levels. They also do maths, English and an extended project qualification.

On one floor there is a costume department, where sewing machines are lined up next to a military uniform on a tailor's dummy; on another there is a professional hair and make-up studio. In the basement the students have created a First World War set.

There are strong links with industry and the curriculum is drawn up in consultation with the companies that will potentially be hiring the students. All the big studios and most of the streaming services have given support to the school, both financial and in terms of work placements and job opportunities. The first 300 students graduated last summer and even during the pandemic 80 of them immediately got jobs. Another 130 went on to university before pursuing careers.

There is, as several business leaders told the commission, a "chasm" between the two worlds and this is not an oversight, it is a deliberate choice. The big ideological split in education at the moment is not between left and right but between knowledge and skills. The national curriculum has been explicitly designed "to introduce pupils to the best that has been thought and said" rather than to help them to look to the future. Indeed Nick Gibb, the former schools minister, champion of the "knowledge-rich curriculum" and defender of Michael Gove's legacy, made a point of publicly rejecting the idea that education should be more closely linked to employment. "We must strongly resist the calls from those who talk about ripping up our curriculum to make it more 'relevant' or to make it solely about preparing pupils for work," he wrote on Conservative Home last year. He sneered at what he called "generic skills" such as creativity, team working and problem solving — the qualities that businesses say they want — as "one of the most damaging myths in education". He suggested that it was being peddled by "progressives" who want to take the system backwards but many Conservatives profoundly disagree with his approach. Robert Halfon, the Tory chairman of the Commons education select committee and a *Times* commissioner, said the "fundamental purpose" of education must be to prepare pupils for work. As he put it: "It's all very well if everybody knows the name of every fish and every river, but if they don't know how to fish they're not going to be able to provide a meal for themselves."

The commission sees the divide between knowledge and skills as a false dichotomy. Of course children need to acquire the building blocks of knowledge, which will give them the mental framework to analyse and understand the world around them. But they should also be given the chance to develop the practical, social and emotional tools that will allow them to thrive as they go out into the workplace. Schools must be encouraged to foster individual curiosity as well as imparting information. Lucy Kellaway said it was "ridiculous and depressing" that the debate had become so polarised. "The whole Govian thing is very culty and you can't disagree with it without being the devil," she said. "It shouldn't be a matter of being a true believer. Knowledge and skills both matter: you need creativity and facts." Kevin Ellis, the chairman of PwC, summed up the view of business, when he told *The Times* Education Summit: "Education should be about both character and qualifications. It should open up pathways and support creative inquisitive learners."

The knowledge-rich curriculum, beloved by devotees, such as Gibb, of the American ED Hirsch, is necessary but it is not sufficient. The commission heard from many of the country's most successful business leaders, scientists and cultural figures that it does not meet the needs of the modern world, or provide young people with the tools to flourish. The focus on traditional academic subjects has led to a narrowing of education, with creativity, design and practical work drummed out. Since 2010 when the government introduced the English Baccalaureate accountability tool, which measures the proportion of children who secure a grade 5 or above in English, maths, science, geography or history and a language GCSE, pupils have been discouraged from taking other subjects. The number of candidates sitting the design and technology GCSE has fallen by almost 80 per cent, music has reduced by 36 per cent and drama by

80,000

Number of words in the national curriculum

40 per cent since their peak in the mid-2000s. There was a 40 per cent drop in GCSE entries in computing or ICT from 2015 to 2020.

Sir James Dyson, who went to the Royal College of Art before training as an engineer, told the commission that the decline of design and technology was an economic disaster for Britain. "Michael Gove downgraded it and put it on to the same level as cookery. Well, cookery is a wonderful thing, which you can be taught at home, but it doesn't create exports, it doesn't create technology, it doesn't create manufacturing businesses. So I'd love to see that upgraded and I think we need to make science more exciting in some way and seeing it applied and seeing a use for it … We used to invent and create wonderful technology and wonderful products. It's as though we've given up."

Schools should also place a greater emphasis on practical work, he argued. "There's nothing wrong with using your hands as well as your brain. In society today, people who make things and do things with their hands are looked down upon. We make all our engineers and scientists build their own prototypes and test their own prototypes. We don't have technicians. And it's really important to make your own prototype and then to test it, because when it fails, as it always does, you have an idea why it has failed."

The venture capitalist Dame Kate Bingham, former head of the vaccine task force, said that if she had a magic wand she would "massively enhance" the level of practical training at school. "Being able to turn what you're learning in basic science into something that's an immediate reality is the best way to learn and it's also the best way to fail because that's one of the things that the focus on academic grades never teaches you. The trial and error of exploring different vaccine constructs, and saying does this one generate a better immune response, or does it last for longer, and what is it about the different sequences, or the different components of the vaccine that you can improve? Now those are the sorts of things that get people excited."

Sir Roger Carr, chairman of BAE Systems, one of the biggest apprenticeship providers, called for a rebalancing of the system too, saying: "We need a programme in this country that doesn't start from the belief that we have the finest education system in the world because we have some of the finest universities in the world. We have to think, how do we equip those who start life with the fewest advantages to have a first-class education, which is developing relevant skills, which can convert into jobs that are both valuable to the society, and also to the individual?"

As the Conservative peer and former education secretary Baroness Morgan of Cotes put it: "In the 21st-century workplace they're looking for knowledge but they're also looking for adaptability, resilience, integrity. With all that the school system has faced in the last two years this has got to be a moment where we say, 'Hang on a second, do we go back to what we were doing before?' And inevitably the school system is going to change."

It is time to design a more rounded curriculum for the 21st century that engages young people and empowers teachers, based on knowledge, skills and character or, in the words of Peter Hyman, the former Downing Street aide who founded School 21 in east London, "head, heart and hand". There should be more regional variation with input from metro mayors, civic leaders and employers. The PwC business survey for the commission found that 78 per cent of employers wanted companies and local authorities to

have a bigger say in the curriculum to help them to address skills shortages. Andy Street, the Conservative mayor for the West Midlands, said the gap between the education system and the world of work "institutionalises from generation to generation the lack of social mobility" in some of the poorest parts of the country. "The economic futures of different areas are different," he said. "What's more effective, a civil servant designing the relevance or an actual business that's likely to be the employer at the end designing the relevance? I know which answer I'd go for."

Andy Burnham, the Labour mayor for Greater Manchester, agreed that the "devolution resistant" Department for Education was "holding English cities back". Like Street, he argued: "The economy is different in different parts of the country. You've got to connect young people to real opportunities in the vicinity where they live so it's realistic." He called for more local flexibility over the curriculum. "There's a big campaign for [the football stadium disaster] Hillsborough to be taught on the curriculum for young people growing up in the Liverpool city region. I think absolutely they should know that. In our case, the Manchester Arena attack, or going back even earlier, Peterloo 200 years ago, people shot dead on the streets of Manchester, or the suffragettes in Manchester." Devolution is already working in education. Since taking charge of adult education, Street has increased collaboration between local colleges and businesses, leading to a 22 per cent rise in the number of people getting jobs after completing training and a 33 per cent rise in relevant courses.

There is also an economic as well as a social need to increase the prestige of vocational education. Despite government promises to boost technical training, there has been a 36 per cent drop in apprenticeship starts over the past five years. The classicist Dame Mary Beard insisted that this country had been "terribly snobbish" about what education is for. "It's still held back by class and privilege aspirations, which rank these subjects into what clever, posh white kids do, and what other people do. We tend to chatter about whether you can do Latin at school and not about whether you can do engineering or carpentry. I think it's deplorable."

A BROADER CURRICULUM

Thinking about the subjects your child or children study at school, would you prefer

24%
More co-curricular activities such as sport, drama, debating or music and less academic study

17%
More academic study and less time on co-curricular activities such as sport, drama, music or debating

48%
The present balance

11%
Don't know

The government has already announced plans for a new batch of highly selective academic sixth forms. The commission proposes that there should be an equally elite cadre of high-quality technical and vocational sixth forms, driven by industry, set up as part of the free schools programme. These Career Academies would be clearly focused on preparing young people for work, with a curriculum specifically designed to fill skills shortages. The London Screen Academy (LSA), set up by six of the country's top film producers who were struggling to recruit production staff, offers a university-certified diploma that is the equivalent of three A-levels alongside an extended project, mentoring and work experience. The school is supported, both financially and in terms of job opportunities, by all the big film studios and almost a third of the first cohort of graduates walked straight into a job at 18. Tim Bevan, co-founder and co-chairman of Working Title Films, said the aim was to pioneer a new form of learning. "Vocational education gets a bad rap and what we want to do is flip that on its head," he told the commission. "We want this to be a shining light of a brilliant school that happens to be vocational and happens to be about film."

His business partner Eric Fellner is convinced that the model could be exported around the country, not only for music and film. "I think that somewhere in this mix is a brilliant opportunity for this country to radically change the way in which it brings young people into the world of employment. I say to all my friends who are in different businesses, 'Go and start an academy for your industry. Go and do an advertising one, go and do a fashion one, go and do a media one. Let's really change the face of education in a small way, and then hope that it grows.'" The LSA's sister school East London Arts and Music has created a similar programme linked to the gaming and music industry. Dyson, who already has his own university, told the commission that he would be "very much on board" to start an elite engineering school. Maria Balshaw, the director of the Tate, said that her galleries would certainly join a consortium of cultural organisations to sponsor one for the arts. "There are many roles across organisations like Tate which are practical in their fundamental requirements rather than academic and it seems to me a bit mad that we train people to be academic curators but we don't train them to be practical art handlers. We're seeing critical shortages in these areas."

It is bizarre that relevance and creativity should be seen as almost dirty words in the Department for Education. Both are crucial. The rows about "decolonising" the curriculum or deleting "dead white men" from the approved list of authors are a distraction. The curriculum should be widened to make it relevant to the most racially diverse generation in British history but that should not mean ignoring the classics or politicising history. The *Times* columnist Sathnam Sanghera, author of *Empireland*, put it well when he said that it was time to move on from culture wars in education. "Part of the problem is that when we talk about empire, it's always through the prism of whether it's good or bad. We had Michael Gove when he was education secretary talking about how we need to celebrate the legacy of empire, then we had Jeremy Corbyn saying we had to teach the historical injustices of empire. If you think of it in that way you're having the battles of the past. The way forward is not always to look at it through the prism of pride or shame but just to try and understand it. I

think that's essential if we want to become a country more at ease with ourselves."

There should be more interdisciplinary learning, with greater integration between the traditional subjects, and an end to the early specialisation that forces young people to choose between humanities and sciences. Dame Nancy Rothwell, president of Manchester University and chairwoman of the Russell Group, said children were having their options closed down far too early. "Your career is dictated almost from the age of 13 or 14. As someone who was berated for taking maths, physics, chemistry and art for A-levels, it's something that I deeply regret. Science is just as creative as the arts and we've got to treat them as of equal value and have more interaction."

The Nobel Prize-winning geneticist Sir Paul Nurse, director of the Francis Crick Institute, said that greater breadth was needed to inspire the next generation. "It isn't good that they have such a narrow experience academically," he said. "You don't excite people with lots and lots of facts. When I look at the textbooks we give them, it fills me with horror. The textbooks get thicker and thicker and the ideas get thinner and thinner, and I really don't think that's good. We need to excite people with ideas and understanding, and in the sciences we need to communicate what science is and what isn't science." Conspiracy theorists, climate-change deniers and antivaxers were "pushing at an open door because of the failure of our education system, in my view, to communicate what is reliable science. Take this across the board to quite a few other disciplines like history, for example, or economics: they share more of an intellectual commonality than is perhaps often recognised. We need a focus on great ideas."

Ed Fidoe, the founder of the London Interdisciplinary School, a new university, compared the education system to a library, which is organised "in corridors, whereas on the internet knowledge is organised in a completely networked way".

The government has already recognised the shift with a new natural history GCSE that will be available to students from 2025 but there is further to go. At XP, a free school in Doncaster, the traditional subject boundaries have been completely abolished. There are no history, geography, chemistry, physics, biology, English or maths classes. Students instead learn through academically rigorous cross-curricular "expeditions", based on real-life issues such as climate change, pandemics or immigration.

The UCL Academy in north London offers a "connected curriculum" with subjects linked each term into "Grand Challenges" such as global health, sustainable cities or transformative technology. Some of the lessons are taught in vast studios where two or three different subject classes are brought together. Simon McBride, the co-principal, said: "Teachers absolutely love it and our attendance rate for disadvantaged students in this school is way above the national average. Why is that? Well for me, and it's a hypothesis only, it's because they actually enjoy their learning."

> "You don't excite people with lots and lots of facts … we need to excite people with ideas and understanding

Learning should be fun, with hands-on experience as well as desk work but education has become increasingly theoretical. Only 37 per cent of students took part in science practicals in 2019 (down from 44 per cent three years previously) and the decline was concentrated in more deprived areas. The microbiologist Sir Richard Sykes, chairman of the vaccine taskforce and the Royal Institution, warned that the fall in practical work made it less likely that the Sarah Gilberts of the future would emerge. "You end up inventing vaccines because you've been in the laboratory, you spend hours and hours doing stuff. Understanding is 99 per cent perspiration and 1 per cent inspiration and that's what you've got to get used to." But he said that this was becoming almost impossible in state schools. "There's no money. To run practical classes you need technicians, you need to set up the laboratory, the kids come in, they do the experiments, they've got people helping them. Today that happens in the private

CASE STUDY

The benefits of silent corridors and the sound of music

Children walk silently in single file down the corridors of an old office block before turning into classrooms and settling down to grammar and trigonometry. A poster reminds them of the Star code that they must follow: Sit up straight, Track the speaker, Ask and answer questions, Respect others.

This is Bedford Free School, which has a reputation for rigorous discipline and outstanding academic results. As one of 22 schools chosen to lead government behaviour hubs across England, it is also helping to raise standards. The mantra is "warm but strict" and there are clear rules. Every morning pupils line up while teachers check that they have the correct uniform, equipment and books.

There is an emphasis on character as well as qualifications. Wednesday afternoons are dedicated to non-academic "electives" such as gardening, chess, debating, coding, creative writing and sport. All pupils learn an instrument in year 7 and 95 per cent of pupils play for a school sports team.

sector; it does not happen in the state sector, or very rarely."

The ability to speak a foreign language is going to be essential for young people going out into a globalised world, and crucial for the country's economy, but there has been a 47 per cent decline in the number of pupils taking French, German or Spanish GCSE over the past 20 years. Only 9 per cent of English 15-year-olds are competent in their first foreign language, compared with an average of 42 per cent across 14 European countries. That must be reversed and bursaries for trainee language teachers should be brought back in line with science and maths. Foreign students could also be recruited through the volunteer tutoring programme to work as virtual language assistants. Schools must do more to encourage pupils who speak English as a second language to gain a qualification in their native tongue, turning bilingual students into what Baroness Coussins, former chief executive of the Portman Group and a campaigner on modern foreign languages, called "two million qualified assets".

The independent sector has long understood the importance of the spoken as well as the written word. Communication skills — "oracy" in the jargon — should become mainstream in state schools too. Pupils need to learn to converse, to debate, to present, to persuade, to justify and to challenge. These tools are highly valued by employers but they are not systematically taught in school and that disadvantages the "forgotten third". Peter Hyman, who at School 21 put oracy on the same level as literacy in the curriculum, has now set up Voice 21, which is working with 900 schools in every part of the country to train teachers to develop eloquence. Giving every young person the chance to find their voice is, he argues "key to social mobility, wellbeing, self-identity and deeper thinking". Sir Damon Buffini, the founder of Permira and chairman of the National Theatre, insisted that so-called "soft skills", the ability to look someone in the eye and hold a conversation, for example, are crucially important. "When you're from a particular socioeconomic background you probably get it round the dinner table, or in the tennis club, but that's not fair, and I think that's what education can perhaps learn from business," he said.

9%

Proportion of 15-year-olds in England who are competent in their second language

Sport, music, drama, art, debating and dance should be an integral part of the timetable for all children, not an optional "extracurricular" add on. The best schools already understand that education is about more than academic learning. At Bedford Free School every child is expected to play in a sports team and the whole of Wednesday afternoon is devoted to an electives programme that includes courses in chess, gardening, debating and even building a medieval trebuchet, the subjects being chosen on the basis of the teachers' interests and changing every half term. In the schools run by the Laurus Trust, in Manchester, pupils choose two electives a week, classes being held after school. The programme is funded by a bonus worth £47 a year per pupil from the trust's sponsor, the hedge fund boss Andrew Law. The impact of this, combined with high academic standards, has been profound, on both students' confidence and their outcomes. Last year 72 per cent of students at Cheadle Hulme High School went on to Russell Group universities, compared with only 12 per cent in the area before the trust took over. "I think it's fair to say that the electives have had a positive impact," Linda McGrath, the executive head, said.

The commission proposes that this model should be tried out more widely, with an "electives premium" of £50 a year for secondary school pupils to fund additional sports coaches, cultural clubs and outings. It would cost the Treasury about £175 million a year, or £215 million if the sum were doubled for pupil premium students, but this extra money should be seen as seed funding for the scheme, with schools also tapping into teachers' interests as well as local community and philanthropic organisations such as sports clubs, theatres, art galleries and debating societies. The policy would enthuse pupils about school and is popular with parents. A YouGov poll for the commission found that 72 per cent of parents agreed that "all schools receiving extra government funding to provide additional extracurricular activities like sport, drama, music, debating or dance" was a good idea.

To facilitate the programme, the Department for Education should set up a digital platform to help schools to find local providers offering activities so that the opportunities at present only given to a few are extended to all. The veteran Whitehall reformer Sir Michael Barber, who has worked for both Sir Tony Blair and Boris Johnson, suggested that primary pupils should have a "bucket list" of theatre trips, museum visits and sporting activities that they can expect to enjoy. Secondary students could have a more ambitious programme of outdoor pursuits expeditions, foreign language tours, cultural activities or work experience to create a stronger focus on "character" in education. "Every child could access the opportunities out of school that parents with the will and the means provide for their own," Barber said. Schools should be responsible for drawing up the lists of outings and activities: ten by the age of ten and seventeen by the age of seventeen. Public transport also ought to be free for school trips. This already happens in London and Manchester and the government should work with local bus and train companies to make it a national entitlement.

Tristram Hunt, the head of the V&A and a

CASE STUDY

The school with no curriculum, just a series of expeditions in life

At XP, a free school in Doncaster, there are no history, geography, chemistry, physics, English or art lessons. The traditional curriculum has been ripped up at this state secondary and students learn instead through academically rigorous "expeditions" based on real-life issues.

Pupils go on field trips and have guest speakers. At the end of each project they create a final product — a mural, a film or a book — and present their findings to an audience of parents, teachers and local dignitaries at a public meeting.

The cross-curricular themes are chosen for their contemporary or community resonance. When pupils returned from the first lockdown, for example, they

undertook a special expedition about Covid-19. They learnt science through studying vaccines, maths by looking at graphs of the virus's exponential growth and history by researching the black death and Spanish flu. The literature component came from reading Charles Dickens on cholera and tuberculosis.

At the end of the project they covered politics and ethics by drawing up their own ten-point plan setting out what they would do to deal with the pandemic if they were prime minister.

The school, in the heart of the politically contested "red wall", has been judged outstanding by Ofsted, is heavily overscribed and has above-average exam results. But it puts a strong emphasis on mental health as well as academic outcomes. There are no uniforms or detentions and nobody has been excluded in seven years. The motto at the school is "Above all, Compassion". XP has a weekly "community meeting" where students can challenge or apologise for bad behaviour and vocalise "appreciations" of their peers and teachers. Instead of a traditional parents' evening, the school has a "student-led conference".

Jamie Portman, the principal said: "The work is very academically challenging. But academic success doesn't entirely drive us. Our curriculum is three-dimensional: academic success, character-building and beautiful work. We don't say, 'Right, period four, we're going to do history. Period five, you've got geography'. It's, 'Period four and five you've got humanities' and history and English might be blended in there.

"Our curriculum is knowledge-rich but I actually think it's some of the other strands of what we do that makes the knowledge stick.

"We humanise the learning."

Times commissioner, said cultural institutions such as his would be pleased to play a greater role in a "post-exam-factory" world. "We do professional development for teachers, we run school competitions, we provide curriculum material. You can spark the imagination with school trips: all the stuff that has been stripped out which is actually the only thing you remember about school."

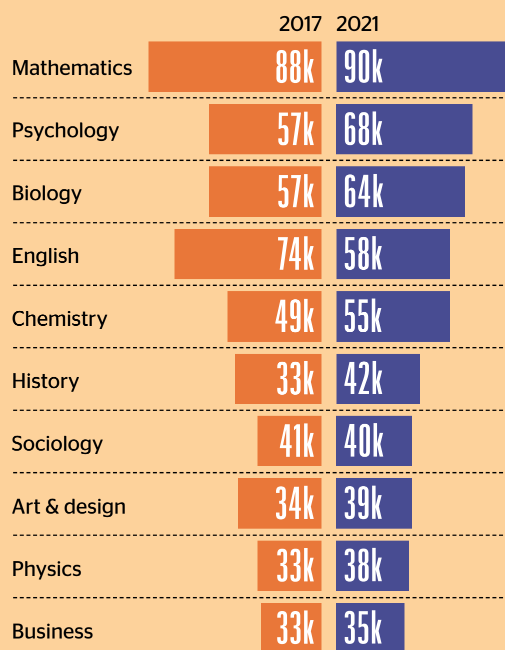
Sir Peter Bazalgette, the chairman of ITV and head of the government's Creative Industries Council, argued that it was a mistake to sideline cultural education when the creative industries generated £119 billion for the economy in 2019. "In the last 20 years, there's been a determined and admirable drive to improve literacy and numeracy but you don't want to get to a situation where education becomes too utilitarian. You've got to have time to dream, time to imagine, not just because from that comes brilliant, creative geniuses who may want to create a career out of it but also because that's how our lives are enriched."

There is evidence that taking part in wider cultural activities can also boost academic outcomes. Sats results at two primary schools in Yorkshire rose by 20 per cent after they allocated three hours of musical activity every week with singing sessions organised by Opera North. The head teachers said that the cultural enrichment had created more positive attitudes to learning and boosted the children's self-confidence and social skills. The Royal Shakespeare Company's programme in schools also generated statistically significant improvements in pupils' attitudes not just to Shakespeare but to education more generally, according to an independent evaluation by Warwick University.

Tamara Rojo, the director of the English National Ballet, highlighted the link between ballet and maths. When she is choreographing a dance, she thinks of it as algebra. "I see the equations and I see the patterns," she told the commission. The Shine for Girls after-school club, which grew out of the Massachusetts Institute of Technology in the US, has had astonishing results teaching maths to girls through dance. Pupils have an average improvement in maths scores of 184 per cent and the performance of some increased by 600 per cent. "I genuinely believe in the power of the arts to level up," Rojo said.

In Wales some schools have been piloting an extended day to give more time for a broader range of activities. Kim Fisher, the head of a Cardiff primary that has been running dance, football, music, cooking and yoga sessions as part of the programme, said there were already signs that the programme was helping to engage the poorest pupils in school. "Children in disadvantaged areas don't achieve as well and that poverty gap has widened because of the experiences they don't have," he said. Although it was too early to assess the full impact of the extended day on academic performance he said it "had a huge impact on improving attendance for some of our vulnerable pupils".

Private schools understand all too well that there must be more to education than knowledge and the independent sector has invested heavily in theatres, art rooms and music studios. Rufus Norris, the artistic director of the National Theatre, told the commission: "I find it very frustrating that many of the people who have been fixing the knowledge-based agenda have themselves benefited very strongly from the opposite. If you go to Eton the theatres are better equipped than our theatres, and that isn't because it's frivolous, that is because the people who are spending a lot of money to send their children there, including many members of

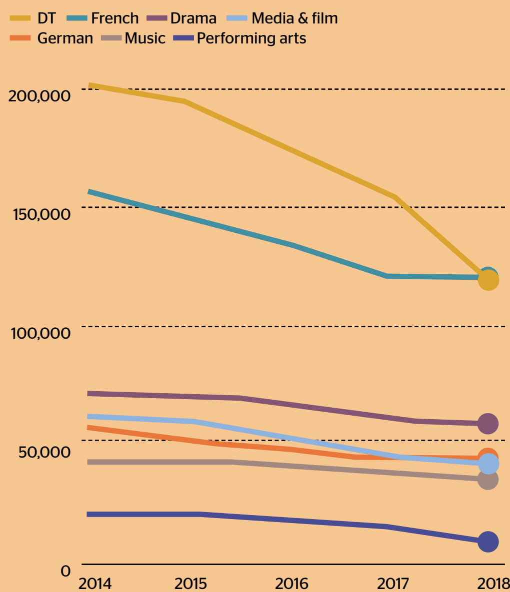


the front bench, understand that it's a really key part of a rounded education."

The theatre director Sir Nicholas Hytner said the sidelining of cultural activities in state schools was fuelling social division. "I think education has become too narrow and one knock-on consequence of that is that the sector that I'm part of then appears to be elitist in the way it goes about making performing arts and in the people that it attracts to those performing arts. And it really is not our elitism that is at fault. It is an elitism that is a direct consequence of education policy and education funding. It's no surprise that the private sector is so good at turning out musicians, actors, playwrights, filmmakers, because the facilities available are so extraordinarily good."

In the school hall at Ormiston Shelfield in Walsall, the commission watched students who had never seen a play before sit entranced for 90 minutes during a performance of Evan Placey's *Jekyll and Hyde*. It was part of the National Theatre's eight-week school tour, during which the set was recreated in deprived parts of the country for 10,500 pupils. At the end of each show the cast and crew took questions about the production and their jobs. Often the stage manager and lighting technicians provoked as much interest as the actors from young people who discovered a whole new set of careers. Michael Riley, the senior vice-principal at Ormiston Shelfield, said that the arts were a powerful driver of social mobility. Many pupils are struggling with a "heady mix of really low aspiration, social challenges, issues around poverty, neglect. When they're here they're safe, they're warm, they're fed, but we need to get them to aspire to more. When we talk to our students about looking further than the local boundaries, about universities or higher-level

> "You've got to have time to dream ... that's how our lives are enriched



apprenticeships, part of that is about showing them things that go beyond the domestic walls. Part of that includes great theatre."

Even before the pandemic, participation in the arts had declined, 90 per cent of state secondary schools having made cuts to the provision of creative subjects. There has been a 47 per cent reduction in participation in theatre and drama and a 36 per cent fall in music. Competitive sport is down by 13 per cent and there are similar decreases for visits to heritage sites, museums and libraries. The Edge Foundation analyses the pipeline between education and employment and produces regular skills shortages bulletins. Olly Newton, executive director, believes that an outdated curriculum is failing to prepare young people for work. "There is quite an old-fashioned view of the education system, that if only we could give every young person access to the great bastions of knowledge and cultural highlights, and hand those on to the next generation, then somehow, automatically, they would get hold of the skills that we're looking for, the creativity. It's a mistake of looking at independent schools or grammar schools in earlier decades, and thinking, 'Oh well, they taught this very traditional curriculum and their students are now sitting at the top of society, so surely that should be our strategy.' But I think what it misses is the fact that, in those schools, they have a massive focus on things like performing arts and sport and music and dance and drama, which, when we talk to the people who lead those schools — and, indeed, their alumni — are one of the things that's really driven them to great things. Indeed, when we put together an event highlighting good practice in design and technology, we found that many of the remaining strong design and technology departments existed within independent schools rather than in the state sector. So those schools where parents are choosing to pay and where they have more freedom are choosing subjects like design and technology and the creative subjects as a way to position their students for future greatness."

England is looking increasingly out of step with other countries on the curriculum. "If you look at all the best education systems around the world, they have similarities," Andreas Schleicher, of the OECD, said. "The curriculum is quite holistic, valuing a broad range of outcomes rather than just narrow academic outcomes … In Estonia nobody would have this term 'extracurricular activity'. For them, that is the curriculum." Even within the UK, Scotland and Wales have already shifted to a more rounded approach. The Scottish Curriculum for Excellence, which places a greater emphasis on interdisciplinary learning and skills development, has been widely criticised but those who have studied it say the problem was in the implementation rather than in the principle. The OECD described the curriculum itself as "inspiring". Wales, which is now piloting its own new curriculum, is learning the lessons of the Scottish problems and officials believe that they have found a way to avoid falling into the same traps.

In Estonia the education minister told the commission that schools were moving away from "knowledge and understanding" towards more "implementation, analysis, synthesis and assessment" with more collaboration across subjects. There is an emphasis on problem-solving, critical thinking, values, citizenship, entrepreneurship and digital skills, with these "21st-century competencies" woven through all the learning. Students must complete a cross-disciplinary creative project to graduate. There has been a similar shift in Singapore, where the government recently announced that it was scrapping mid-year exams. The curriculum has been rewritten to include more creativity, critical thinking and independent learning. Lim Lai Cheng, the former principal of the Raffles Institution and fellow of the school of social sciences at Singapore Management University, explained that her country was driven by a pragmatic desire to create the workers the economy needs. "We're trying to inject a lot more creativity into our schools, social emotional learning, values and ethics," she said.

In Shanghai, two districts are trying out a new curriculum based around creativity and problem solving, with more hands-on learning and fewer traditional lessons with a teacher standing at the front of the classroom. Wang Benzhong, director of The Creative Lab in Shanghai, said the global trend was clear. "So many people including China are exploring creativity education. My personal understanding is creativity is very beneficial to the development of the country and the economy because it will help us have better stronger talent." The Shanghai initiative, which is expected to be introduced across the country soon, had come from the "pain and peril" in the Chinese education system, he explained. "The pain refers to the lack of independent thinking: our students are very good at reading and maths but they lack creativity and critical thinking. The peril refers to a deep-rooted problem where the education system in China has been too obsessed with academic results or scores, with degrees and diplomas, with dissertations and theses and with people's titles." England is facing the same pain and peril and it too must adapt to survive.

1 2 3 **4** 5 6 7 8 9 10

ASSESSMENT

NOT MAKING THE GRADE

No other developed country's teenagers sit as many high-stakes tests as ours do and the focus on academic attainment has unbalanced the system

A few years ago, Ian McEwan's son was asked to write an essay on *Enduring Love*, one of the novelist's most celebrated books. Before submitting his work, he talked to his father about the meaning of the text and wrote a well-informed analysis. He was given a terrible grade. He was marked down because his essay did not fit into the teacher's rubric of correct answers. McEwan does not blame the teacher and now describes it as a "minor affair". "Her error was in lowering his mark for his arguments rather than for the cogency with which he presented them," he suggested. The incident is, however, symptomatic of a mark-scheme mentality in the education system that is undermining the true purpose of learning.

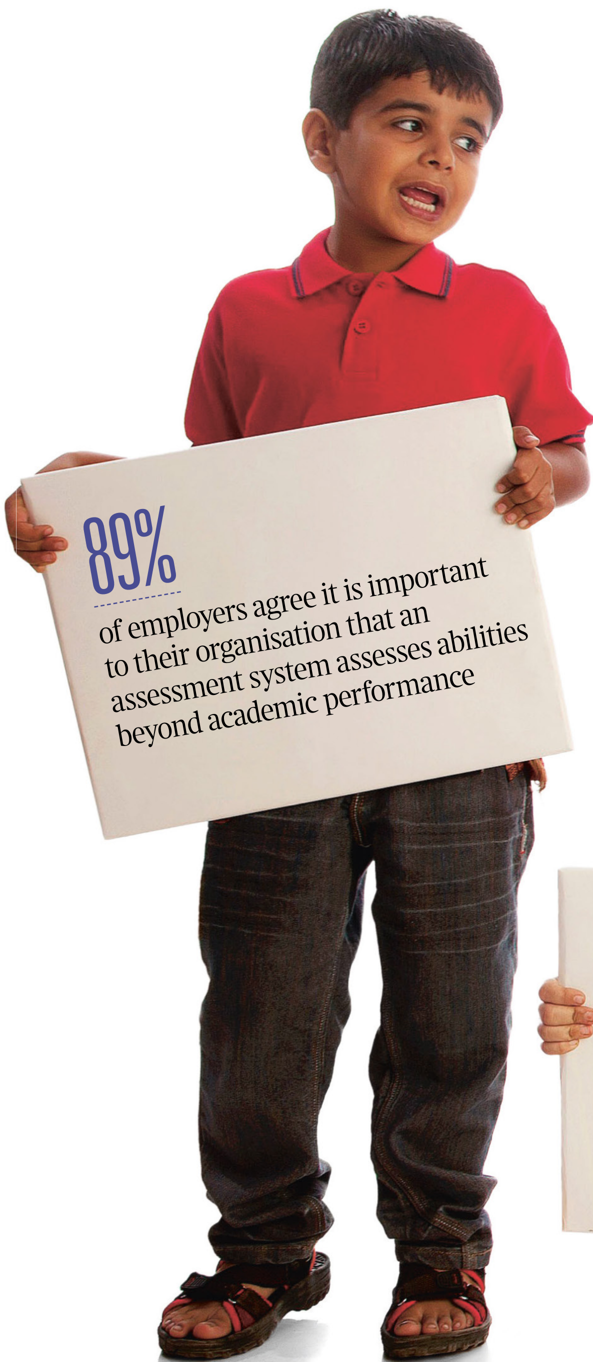
High-stakes assessment has become the tail that wags the dog, then wraps itself around the creature's neck and strangles it nearly to death. Exams are important — both as a way of measuring pupils' progress and of holding schools to account — but they have become too dominant. The single-minded focus on grades has undermined the broad and balanced education that should be offered to all young people and is leaving too many categorised as failures. There are all sorts of perverse incentives when the system is driven by exam results. Some schools feel under such pressure to maintain high scores that they boot out pupils who are going to do badly even though they are often the most vulnerable. Others sideline activities such as sport, which are crucial for children's health and wellbeing.

The accountability system and the assessment process have become muddled up, as even Amanda Spielman, the chief inspector of schools in England, herself admitted. "We've got an incredible amount of weight hung on qualifications to measure schools as well as to measure individuals, and I think that conflation is problematic for the system," she told the commission. "The acuteness with which children are aware of the detail of mark schemes and very micro-requirements [has] absolutely ballooned in the last twenty years, and that has had a corrosive effect on education and increased the number of children — and teachers, actually — who think, 'I must do only the things that will collect marks.'"

Geoff Barton, general secretary of the head teachers' union the Association of School and College Leaders, put it rather more bluntly. "The problem with GCSE is, we use it to judge the child, judge the teacher, judge the school and people who I represent lose their jobs if they do badly in it," he said. "We need a system which doesn't have as much collateral damage."

There is no other country in the developed world that has so many high-stakes tests at both 16 and 18. The number of exams that pupils take in England sucks an inordinate amount of time and energy out of their schooling, squeezing out the space for other things. Some schools now start preparing their pupils for GCSEs three years or more before children are due to take them. In the build-up to exams, students are often expected to sit pre-mocks, followed by mocks even before they get to the real GCSE. One study estimated that a young person doing eight GCSEs and three A-levels will take 42 external exams and lose about two terms of learning in preparation and exam time. For some pupils, so much of their final year is spent doing past papers that they lose any enthusiasm for the subjects they are studying. Lucy Kellaway, who teaches in east London and is co-founder of Now Teach, described the wider stultifying effect of teaching to the test. "We've talked about GCSEs failing the bottom third but what I see is that they fail all of my students, even the ones who are going to do very well in them," she told her fellow commissioners. "To do well, you need to be really good at exam technique and this strikes me as the world's most boring and pointless skill. It has really no value in the rest of your life at all but that is what we all spend all of our time doing."

The financial cost is also enormous. The think tank EDSK estimates that GCSE exam board fees alone cost £200 million a year and a full audit of the exam system, cited in parliament in 2008, put the total cost

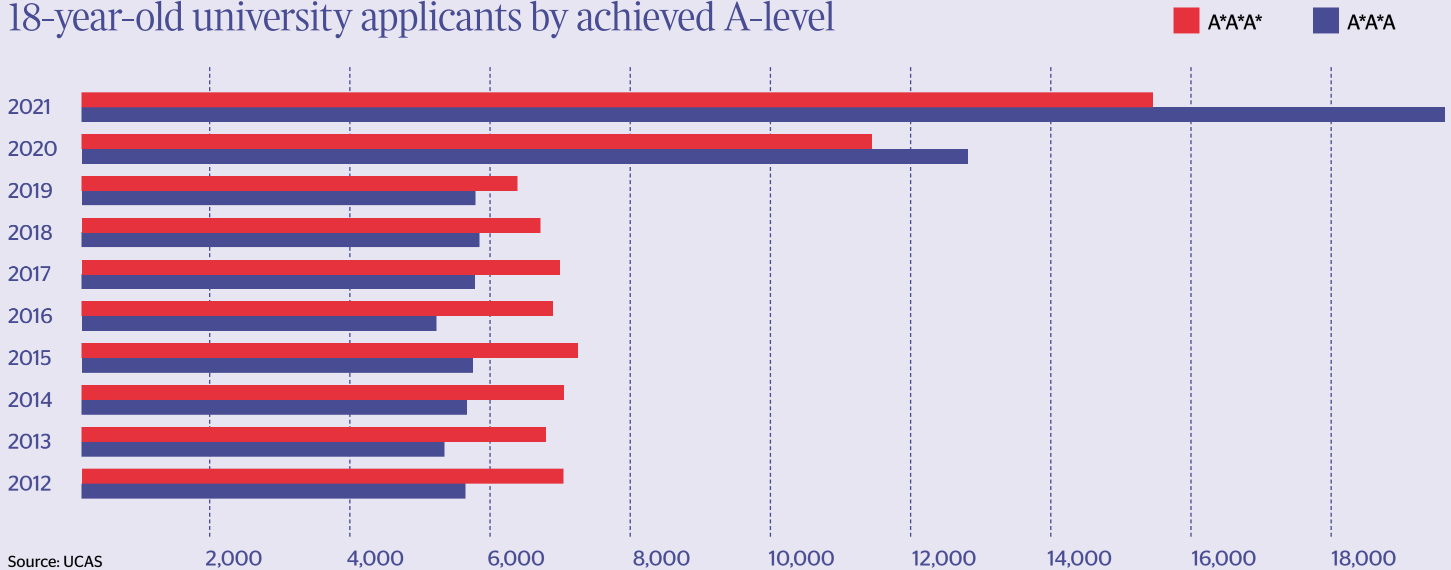

89%
of employers agree it is important to their organisation that an assessment system assesses abilities beyond academic performance

41%
of employers expect to have shortages in the skills needed to support the transition to net zero within the next 12 months

50%
of employers say their organisation could contribute to a more resilient UK economy if the education system were reimagined to better meet their needs

GRADE INFLATION

18-year-old university applicants by achieved A-level



Source: UCAS

at more than three times that amount. There are growing questions about the fairness and accuracy of the system too. A-levels and GCSEs are held up by ministers as the "gold standard" but the exam regulator Ofqual says that the marking is accurate only to one grade either side. According to an analysis for the campaign group Rethinking Assessment this means that on average one exam grade in every four is wrong. Those who can afford to pay the fee to challenge the results frequently get them changed. After the 2018 exams, a fifth of the GCSE grades that were remarked ended up being altered.

Dame Alison Peacock, chief executive of the Chartered College of Teaching, told the commission that exams were distorting the entire education system. "Teachers are driven by the mark scheme, so are students. Over time we need to transform assessments so that the curriculum is fit for purpose and every child has … something to be proud of as a result of their education. We can't say that at the moment, and that's devastating."

The classicist Dame Mary Beard described GCSEs as "past their sell-by date" and said they demand "a huge amount of teacher-pupil educational curricular time, which we could actually be devoting to more important and more interesting things".

Lord Baker of Dorking was one of nine former education secretaries and two former prime ministers who told the commission that it was time to shake up exams. "Having introduced GCSEs, I now want them scrapped," he said. "We have a school-leaving age of 18 so you do not have to have a certificate at 16 to show what you've achieved."

The case for reform is compelling. Sarah Fletcher, high mistress of the independent St Paul's Girls' School, said it was "morally unacceptable that a third of students fail to get maths and English every year" but she insisted that the high-achieving pupils at her own academically selective school were also being let down by a system that homogenised children. "They're not getting the skills they need for the real world; they're not being stretched," she explained. A survey of teachers and school leaders by the Headmasters and Headmistresses Conference (HMC) found that 94 per cent of respondents believed that GCSEs needed complete or partial reform. Fletcher, who is

94%

Proportion of teachers surveyed who said that GCSEs needed reform

also chairwoman of the HMC Reform of Assessment working group, admitted that she was surprised by the strength of feeling, which was even more pronounced in the state sector than in private schools. "I think Covid has broken the psychological and practical hold of exams and suggested that we can change," she said. "There is just a sense that the system is letting people down: an increasingly loud dissonance between what we're teaching in schools and the skills and mindsets people need to grapple with the problems of the modern world."

At a time when an ever more interconnected globe requires cross-fertilisation across disciplines, pupils are forced to specialise far too early, often selecting their GCSEs at 13 and A-levels at 15. An analysis by the Education Policy Institute for the Royal Society found that the proportion of A-level students covering at least three of the main subject groups — humanities, sciences, maths, languages and vocational — has halved since 2010. The former Conservative Cabinet minister Lord Willetts described the narrowing down to three A-levels at 16 as "barbaric" and suggested: "It creates a particularly acute conflict between the two cultures of arts and sciences, far worse than in any other western country."

The businessman Sir Charlie Mayfield, a former chairman of the UK Commission for Employment and Skills, said that the relentless chasing after grades was harming the outcomes that really mattered in life. "If you were able to take out one set of public exams and keep people broader for longer, you might actually give teachers more time to teach a wider set of skills, not just around the marking scheme for an exam."

Businesses have lost faith in exams and a growing number of employers now ignore A-level and GCSE results altogether in favour of their own direct assessment techniques. The PwC business survey for the commission found that one in six companies take no notice at all of exam grades; 74 per cent use their own assessment techniques in addition to school or university grades; and 89 per cent believe it is more important for young people to be assessed on more than academic attainment. Indeed, PwC itself no longer uses grades to select trainees. Instead it runs its own psychometric tests to determine candidates' approach to risk, analytical skills and emotional intelligence. The Royal Bank of Scotland employs situational judgment tests and online aptitude tests

and the magic circle law firm Clifford Chance has introduced a CV-blind approach.

Dame Sharon White, chairwoman of the John Lewis Partnership, explained that her company was increasingly relying on its own online assessments because it could no longer trust the state-run exams. "The system has become even more narrow, limited and box-ticking," she said. "We try as far as possible to set to one side people's qualifications. They turn out not to be a very good indicator of how well somebody will do in the partnership." Education should in her view be much broader and move from "rote learning and memorisation" to "skills like project management, assessing children on teamwork and the ability to make a product". That might, she said, be better done through more continuous assessment than exams. "It's very rare that there are any work tasks where you have two and a quarter hours to get from A to B. The way in which assessments are done [should be] mirroring the world of work … I wouldn't have a separate step at 16. I would look at a high school diploma which is sufficiently broad for those who are going down a more or less academic route."

Almost three quarters of businesses in the PwC survey said that recent grade inflation had devalued qualifications. Companies also told the commission that the shift away from traditional measures of attainment was part of their social mobility strategy. Kevin Ellis, the chairman of PwC, said exams were by definition "excluding" and not a good measure of potential. "Dropping exams as one of the filter categories improved our diversity of intake and therefore improved our success as a business." The year after EY, one of Britain's biggest graduate recruiters, eliminated the requirement for applicants to have a minimum 2:1 degree pass, or the equivalent of three B grades at A-level, the number of recruits from state schools rose 10 percentage points to 49 per cent for graduates and 59 per cent for school leavers.

Peter Harrison, chief executive of the asset management company Schroder's, explained why his company had moved to CV-blind recruitment. "A-levels are a poor shorthand, GCSEs are totally irrelevant, and so all the energy in the education system is going on the wrong things," he told the commission. "We find our aptitude testing comes up with a completely different group of people and you end up with much more diversity. It's testing innate intelligence rather than learnt subjects. What we want are negotiation skills, judgment, decision-making, emotional intelligence, management skills, creativity, critical thinking. We don't need people to be able to decline Latin verbs, we want them to have a service mindset, cognitive flexibility and an ability to see things in the round. That is so different from the rote-learning-based approach which GCSEs encourage."

> "All the energy in the education system is going on the wrong things

Many employers appear to have concluded that grades are no predictor of future performance. Euan Blair, the founder of Multiverse, which promotes professional apprenticeships, said: "When we look at the apprentices that we place, we've actually seen no difference between those who are getting Cs, or grade 4s in GCSEs and those who are getting A*s and As in GCSEs, in terms of the employer they go on to, how long they're retained in their job, their performance reviews and their progression after that fact. These are being built up into big things that determine your success or failure later, aged 16, which is astonishing, and there's actually no correlation at all. Other than signalling, they're not at all important and employers don't really care."

The entrepreneur Sir Ian Livingstone, one of the founding fathers of the UK video games industry, insisted that exam results were irrelevant. "I need to see a portfolio of work," he said. "There has to be a better way of assessing children. It cannot go on with this exam system where people with money will have an advantage, because they are engaged in a nuclear arms race of after-school teaching and coaching from whoever they want to pay to school their children so they get top of the pile. I did hopelessly at school and I've done pretty well in life, and there has to be a way of assessing more of what they're able to do. We need the polymath. Leonardo da Vinci was an amazing painter, but also a mathematician and engineer."

Historically, the universities have been resistant to assessment reform because academics liked the idea of students arriving to start a degree with lots of specialist knowledge. But the evidence presented to the commission suggests that they too are now increasingly dissatisfied and open to change. Stephen Toope, the vice-chancellor of Cambridge University, warned that pupils were being "funnelled" into making subject choices too early when people mature at different rates. "I do really worry about the extent to which the UK has got itself trapped in high-stakes examinations at very fixed moments in a person's life as the determiner of their future. We are seeing that there are negative effects of those examinations at both GCSE and at A-levels. I think the high-stakes exams create significant mental health pressures for students at different stages in their life. They also have too much emphasis on rote learning and memorisation."

Further education colleges, which help many of the "forgotten third" through their resits, are all too often picking up the pieces with scant resources. "We know that the GCSE curriculum offer and the assessment methodology turns off loads of young people," David Hughes, chief executive of the Association of Colleges, said. "It's not because they're stupid, it's

because they don't see the relevance of it. I'd like to get to the situation where technical education could be part of an offer, not a binary divide. Why on earth the government thinks that doing a written exam, which requires lots of short-term memory recall, is a good way of working out whether you should be going on to do brickwork or carpentry or engineering or hairdressing I don't know. It's completely inappropriate."

There is also a scientific case for looking again at the way children are assessed. Sarah-Jayne Blakemore, professor of psychology and cognitive neuroscience at Cambridge University and a member of the commission, argued that the exam system was failing to capitalise on the potential of the teenage brain, or take account of the latest developments in neuroscience. "GCSEs were brought in in the late Eighties, when we knew nothing about how the adolescent brain and cognition develop. Back then we assumed that the human brain stops developing in childhood. We now know, from research in the last 25 years, that that's absolutely not the case and, in fact, the human brain undergoes really substantial and protracted development right throughout childhood, and also throughout adolescence and even into the 20s. Adolescence is a time of profound change, not just in terms of the brain, but also in terms of cognitive abilities like decision-making and planning and self-awareness, and also creativity."

> "We need to completely rethink the way we do assessment at 16

The teenage years are also a period of vulnerability for mental health problems, probably partly because of all the changes that are going on in the brain, she said. "The peak age at which mood disorders like depression start is 15 to 16 years. That's exactly when young people are expected to cram masses of information for these very high-stakes national exams, GCSEs. My view is that, based on what the new science shows us about brain development and cognitive development, and the fact that this period of life is a period of vulnerability to mental health problems, we need to completely rethink the way we do assessment at 16."

The commission proposes the introduction of a British Baccalaureate at 18, an equally rigorous but broader qualification than A-levels with academic and vocational options under the same umbrella. It

CASE STUDY

Giving post-16 students a university experience

Impington Village College, just outside Cambridge, has been offering the International Baccalaureate (IB) since 1990 and allows pupils to choose between the academic diploma programme (DP) and the vocational career path (CP).

Alongside their course all students complete an extended project and personal development modules as well as some community service. There is the possibility to "mix and match" between the two trajectories and pupils often share classes.

Students on the diploma programme study six subjects: three major and three minor. Each of the majors is the equivalent of an A-level, in terms of teaching hours and Ucas points. "One of the most pernicious myths, as it were, is that the IB DP is all about breadth and you never get to any of the depth: absolutely untrue," said Jo Sale, the vice-principal.

"The extended essay is like an undergraduate thesis and you work one-to-one with a member of staff who is called your supervisor, so again mirroring that university experience."

On the career path, students can take BTecs as part of the qualification: the school offers performing arts, sports studies and health and social care.

Leanne Gibbons, the head of the career path programme, said the vocational route "opens doors" for students. "The beauty for me is that it marries the vocational with the academic," she said.

"We have quite a few students whose parents did not go to university, who have not actually considered that kind of pathway. They are bright, they are hardworking, they know that they have a particular ambition but they might not consider university. A number of them go on to apprenticeships but interestingly most of our CP students apply to university in the end."

The IB courses involve more teaching hours than A-levels, but students like being able to mix subjects and disciplines.

would be based on the tried and tested International Baccalaureate (IB), which is widely respected by employers and universities, but would be customised for the UK. Pupils studying for the academic Diploma Programme (DP) would take six subjects — three major, three minor — covering both humanities and sciences as well as units on critical thinking, communication and creativity. Those on the Career-related Programme (CP) would combine learning (which could include BTecs or a T-level) with work experience. There would be the option for students to "mix and match" elements of both programmes to create the qualification that best suited them. All pupils would do an extended project, community service and some literacy and numeracy through to 18. Digital skills would be woven through the whole curriculum.

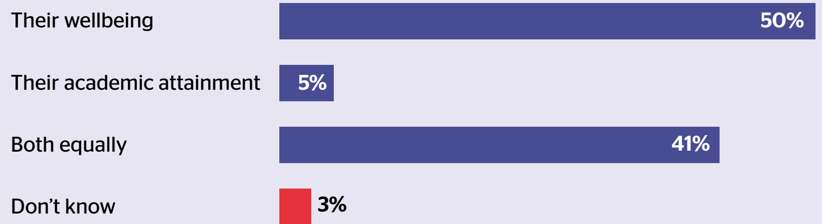
At 16, pupils would take a slimmed-down set of exams in five core subjects, with continuous assessment as well as online tests contributing to their grade. This would allow children to progress to the next level and provide accountability for schools, but lower the stakes and reduce the amount of time spent on preparing for and taking exams. It mirrors the IB Middle School Programme and other European systems such as the French *brevet*. Schools would be required to teach a broader curriculum including the subjects that were not covered by exams. They would be judged on that basis by Ofsted to ensure that they did not focus excessively on the areas that were going to be assessed. Everybody would be expected to pass English and maths at a basic level necessary to be able to participate fully in life.

> “Adolescence is a time of profound change

The British Baccalaureate would build on the expertise of the IB, which has almost two million students around the world including about 4,500 in this country. For the most academically able the qualification would be at least as demanding as A-levels, in fact it would almost certainly be more so. For students on the IB Diploma Programme each of the three "major" subjects is worth the same number of Ucas points as an A-level. But the proposed British Baccalaureate would introduce greater breadth and flexibility to the post-16 curriculum while also ending the "sheep and goats" division between academic and vocational education. A student wanting to go

WELLBEING FIRST

Thinking about your children's education in general, which of the following is more important to you?



Survey conducted on a sample of 1,993 parents of school-aged children, April 21-22, 2022
Source: YouGov, The Times Survey Results

on to study chemistry at university, for example, could still take an art course; somebody wanting to specialise in history would be able to complete a unit in physics or engineering. The shift towards all schools becoming part of a larger group would make it easier for specialisms and teaching resources to be shared between institutions to maximise choice for pupils.

The commission believes that the proposed reform would have the potential to simultaneously raise standards and increase social mobility. One study found that IB diploma students in the UK were three times more likely to enrol at a top university and 7 per cent more likely to get a first-class degree than their A-level peers. There is also emerging evidence about the positive social impact of the career-related path. At Impington School near Cambridge, which offers both IB programmes, teachers said that outcomes for disadvantaged students had been boosted and pupils with special educational needs had also benefited from the flexibility of the curriculum.

There would be a cost attached, because the number of teaching hours would have to go up but the commission has been advised by Whitehall sources that this could be met by equalising the per-pupil funding of 16 to 19-year-old education with the budgets for 11 to 16 education. This would cost about £1.2 billion a year, according to the Institute for Fiscal Studies, and would also remove a historic anomaly in the funding mechanism that dates to the time when the school leaving age was 16.

Technology will bring down the cost over time. The biggest exam board, AQA, which has to print, deliver, collect and mark about 12 million scripts a year, is already trying out online testing. The exam regulator Ofqual is also exploring the use of online assessment, including adaptive testing, where digital exams adjust to suit a candidate's ability in real time. This would remove the need for all teenagers to sit the same paper at the same time across the country and blow apart the current model of exams. In this scenario, the Baccalaureate model would allow pupils to accumulate credits over time and build towards their overall qualification.

The commission proposes that this new qualification should also be supported by a Digital Learner Profile, a personal online portfolio for every student. It would include academic qualifications alongside a record of other achievements: video footage of a pupil playing a musical instrument, photographs of projects they have worked on or details of expeditions, volunteering and work experience. A prototype of the digital profile already exists. A combination of Instagram and Linkedin, it allows children to post updates, share their activities on a feed, analyse their learning and earn credentials for demonstrating their mastery of key skills. Teachers are able to log in to authenticate their pupils' work or suggest new experiences to balance the portfolio. The Universities and Colleges Admissions Service (Ucas) is already looking at accepting a digital learner profile on its applications. Clare Marchant, the chief executive, told the commission: "If you think about the personal statement, in three, four, five years' time, a digital portfolio is absolutely the way to go." Individuals would be able to add to the profile throughout their lives and use it as a digital CV.

The British Baccalaureate could apply across the United Kingdom. Scotland is about to embark on a review of assessment and the commission would offer this model as an option that would benefit young people north and south of the border. The British Baccalaureate would also dovetail well with the Welsh Baccalaureate, an over-arching qualification that combines academic grades with wider experiences.

After two years of cancelled exams, schools are still dealing with the return to external tests so any change would have to be phased in, carefully planned and coordinated with wider reform of the curriculum as part of a long-term strategy for education. But the present system is letting down so many pupils that maintaining the status quo is neither a fair nor a credible option in the long term. Many of those working in education are desperate for change. A survey by Oxford University Press for the commission found that 65 per cent of teachers think that GCSEs are too high stakes and 64 per cent believe that there is too great a division between academic and vocational pathways after the age of 16. Only 45 per cent find the GCSE curriculum professionally fulfilling to teach and 62 per cent disagree that the present system allows young people to develop curiosity. Alastair Jarvis, former chief executive of Universities UK, said that most higher education institutions would also be positive about changing to a new qualification. "We specialise too soon in the UK so something Baccalaureate-like, I think, is likely to be a good thing."

There is broad public support for the reform proposed by the commission, amid strong concern among parents that the focus on exams is undermining the wellbeing of pupils. Our YouGov poll found that 37 per cent of people backed moving to a Baccalaureate at 18, compared with 32 per cent who did not, and 51 per cent were in favour of children being required to study maths and English to 18. Parents overwhelmingly believe that the present assessment system is flawed, 56 per cent telling YouGov that they thought that the present emphasis on tests and qualifications in schools was bad for mental health, compared with 13 per cent who thought that it was good.

A focus group of parents in Oldham and Bury (core Red Wall territory) organised by the policy and research consultancy Public First found particular enthusiasm for the proposal to bring vocational and academic education together under a single qualification at 18. Several members of the group expressed their concern about the stress caused by the number of exams.

It has been notable over the course of the year how many business leaders, scientists, cultural figures, vice-chancellors and former politicians have told the commission in evidence sessions and interviews that they favour a Baccalaureate. The social mobility campaigner Sir Peter Lampl, chairman of The Sutton

Trust and the Education Endowment Fund, said the Baccalaureate model was "far superior" to A-levels and GCSEs. The businessman Justin King, former chief executive of Sainsbury, argued that the switch would introduce the flexibility that the system needed. "I'm quite a fan of the Baccalaureate. I certainly see young people coming through that system much more rounded and much more life-skilled. All of those things. That balance seems to me to be at the heart of the solution. I would retain exams but I would also have an element of assessment along the way."

Sir Jeremy Farrar, whose children took the International Baccalaureate, agreed. "I'm a great fan of the breadth, at least until the age of 18," he said. "The focus on facts is not what will define progress in the coming decades. It's the ability to synthesise and have an appreciation of and respect for different disciplines."

Rachel Wolf, the Public First founder, who co-authored the last Conservative manifesto, urged the government to take up the Baccalaureate plan. "The narrowness of our 16-19 curriculum is a monumental weakness of our education system. It is not how other comparator countries educate their children, and it not only intensifies the 'two cultures' problem articulated decades ago by CP Snow but makes it harder for people to engage with the complexities of our world and reduces their options in later life. If the commission's recommendations lead to a system that allies academic rigour with breadth, then that would be a huge step forward."

Sam Freedman, a senior fellow at the Institute for Government and former adviser to Michael Gove at the Department for Education, argued that a Baccalaureate would be more "inclusive" by leaving options open for pupils. "We really unnecessarily narrow the curriculum post-16 and in a way that very few other countries do. We're one of the only countries where children don't have to do any maths or literacy in their own language past 16. And, by creating that very intense specialisation at 16, you also create a real bifurcation point … I do think we should at least start having the conversation about the fact that we specialise because of a policy that was developed 80 years ago at a time when a few per cent of the population were doing post-16 education and that we've just maintained until now."

Several of the former education secretaries interviewed by the commission said that their greatest regret was not reforming assessment. Lord Blunkett, Labour education secretary between 1997 and 2001, hoped that exams at 16 were "pretty well dead" in their present form, adding: "I would like a broad qualification that gave young people the chance to demonstrate the level of learning they'd reached." Charles Clarke, who held the position between 2002 and 2004, described the failure to transform the assessment system as "Labour's biggest failure during its period in office".

David Miliband, the former Labour schools minister, called GCSEs a "relic which dull down schooling, disempower educators and compound inequalities" and backed the British Baccalaureate. The former prime minister Sir John Major worried about the "stress and strain" imposed on students by GCSEs. Lord Young of Graffham, Margaret Thatcher's favourite businessman, criticised the education system as 19th century and called for exams to be replaced by continuous assessment. "People come out of school completely unaware of the world they are going to be moving into," he said.

Over the past 20 years both Labour and Conservative governments have commissioned independent experts to review the assessment system. The Tomlinson review, set up by the Blair government in 2003 amid accusations of grade inflation, proposed moving to a Baccalaureate system. The Sykes review, commissioned by Michael Gove in 2010, advocated sweeping changes including scrapping GCSEs. Yet in both cases the findings were ignored by the politicians.

Sir Richard Sykes, who conducted the review for Gove and is now chairman of the vaccine taskforce and the Royal Institution, said the case for reform was stronger than when he had reported. "Even at that stage we knew that GCSEs were an anachronism: they were for a different age. When you start keeping people in school then why would you have a national test for a 16-year-old? It doesn't make sense." The Baccalaureate was, he added "far more sensible than the A-levels. It's just broader."

His high-powered committee included Alison Wolf, now a Downing Street adviser, Amanda Spielman, chief inspector of schools, and Sir Michael Wilshaw, her predecessor. Wilshaw, who as a head teacher was famous for championing rigour and discipline, still supports "radical" change and told the commission that GCSEs should be scrapped. "We have a very rigid system, which fails far too many children," he said.

Sir Michael Tomlinson, another former chief inspector of schools who chaired the inquiry for Sir Tony Blair, insisted that the proposal for a Baccalaureate was "more relevant than ever" and should certainly be implemented.

There is a nervousness at Westminster about shaking up the exam system, for fear that reform is presented as "dumbing down", but the British Baccalaureate would be more rigorous and more stretching for the most academic pupils, while giving a clearer range of options to those who choose to follow the career path. The political backdrop has changed since the pandemic. As our poll showed, parents are increasingly concerned about their children's wellbeing and future employment prospects as well as academic grades.

New technologies will make it easier to implement reform, and the digital age makes it even more important to create an assessment system fit for the 21st century.

Peter Hyman, the founder of School 21 and director of Big Education, said change would also reinvigorate a teaching profession that is increasingly disillusioned with an education system driven by mark schemes. "No wonder so many teachers leave. They thought they were entering an intellectual, layered, complex, collaborative profession and end up realising that they are simply cogs in the exam wheel," he said. "I'm a history teacher who believes in imparting knowledge but it is not enough. We need something broader."

Changing exams will always be fraught, but the present assessment system has become a dead hand on education that is sucking the energy out of schools, stifling teachers and condemning too many young people to the scrap heap. The pandemic has created the momentum for reform. We must seize this moment otherwise it will be another decade before the chance comes around again.

1 2 3 4 5 6 7 8 9 10

TEACHING

CLASSROOM HEROES

Teachers are leaving the profession in their droves because they feel overworked and undervalued. Ofsted, which is supposed to support them, is a toxic brand

There is an episode of the cult television series *The Wire* in which the Baltimore cop-turned-teacher Roland "Prez" Pryzbylewski is taking a maths lesson with his struggling pupils. The subject is statistics and the kids are bored stiff, staring out of the window and disengaged. The bell rings at the end of the lesson and Prez goes off for lunch. When he comes back, the teenagers are playing dice and gambling on the outcomes of their throws. Instead of telling his students to get out their textbooks and start writing sums, he explains the probability of a four coming up in their game and how that might inform their bets. Suddenly they are interested because the dry mathematical concept seems relevant. "Trick them into thinking they aren't learning and they do," Prez says to a colleague. A good teacher understands how to get through to their pupils and that is how they change lives.

Teachers are heroes. They should be celebrated every bit as much as the health workers the country clapped during the pandemic. From *Dead Poets Society* to *Harry Potter*, the bond between an inspirational teacher and their pupils is woven through popular culture. The singer Adele broke down in tears last year as she brought her teacher up on stage as a tribute at her concert.

Sir Tim Smit, co-founder of the Eden Project and a commissioner, said: "We need to work out how we create the right respect, or love, for teachers. If we think that our children are the most valuable things to us, surely the people that we hand our children to, to educate to make fit for the future, we should really, really, really love them to bits. And we don't." More widely, the coronavirus crisis created a new sense of appreciation for those working in the classroom. With schools closed and pupils forced to stay at home, parents began to understand just how difficult it is to devise interesting and inspirational content for their children.

Research from around the world shows that good teaching is the key to success in education. As the veteran Whitehall reformer Sir Michael Barber put it: "The quality of an education system cannot exceed the quality of its teachers." In England, though, instead of being nurtured and encouraged to hone their craft, teachers are too often infantilised by the education system and maligned by politicians who denounce them as part of "the blob". They feel disempowered by an overprescriptive curriculum and demoralised by teaching to the test. It is no wonder that the recruitment and retention crisis is growing with potentially devastating consequences for schools.

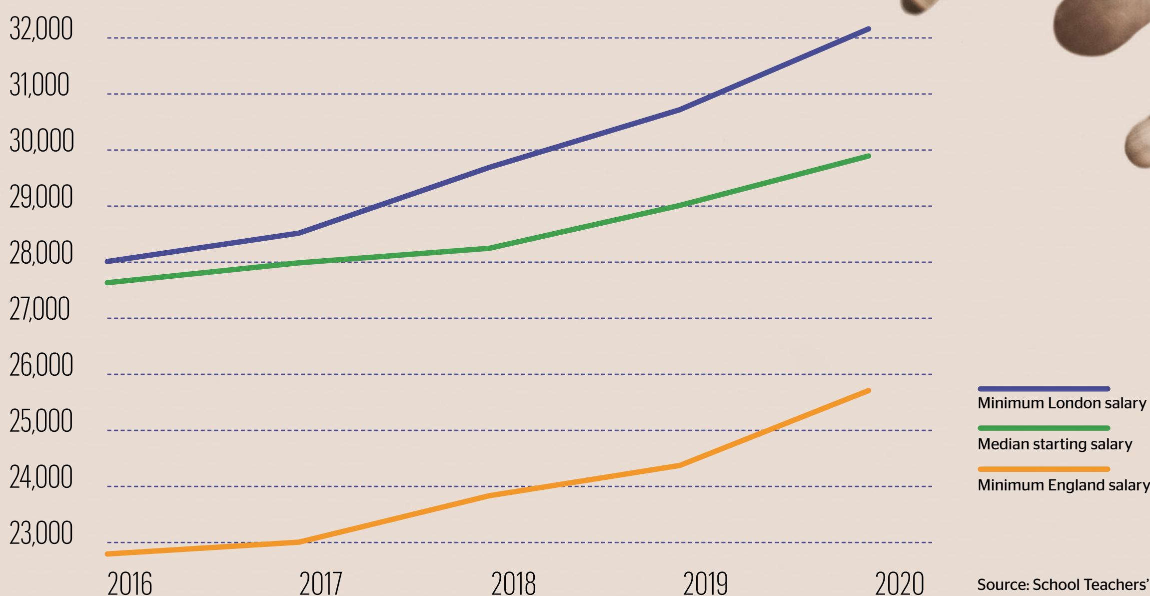
A YouGov poll of teachers for the commission found that one in three planned to leave within five years and one in six within a year. The number of reported teacher vacancies in state schools has more than doubled over the past decade and a longstanding problem is getting worse. This year only 15 per cent of the target number of physics teachers is on track to be recruited and languages and computing are also well under 50 per cent. In the most disadvantaged schools, 85 per cent of teachers say that recruitment is affecting the quality of education in their school.

The government has promised to raise starting salaries to £30,000 for new teachers but that risks creating resentment among more senior staff who have had their wages eroded. According to the Institute for Fiscal Studies (IFS) experienced classroom teachers will have had a real-terms pay cut of 14 per cent between 2010 and 2023. As Paul Johnson, the IFS director, said: "You're not in the long run going to be able to keep and attract the right people to teach if you keep reducing salaries, and of course that is going to matter."

Money is clearly an issue but teachers reported overwhelmingly that the pressure of the job was a greater problem for them than pay. In a Teacher Tapp survey for the commission, 47 per cent of teachers said reducing the workload would make the biggest difference to their morale, compared with 26 per cent who said that more money would give the greatest boost. A poll last year by the National Education Union (NEU) found that workload had increased for

STARTING SALARIES

Teacher pay has risen, although increases to the cost of living erode these improvements



Source: School Teachers' Review Body

70 per cent of teachers and 95 per cent admitted that they were worried about the impact on their wellbeing. Two thirds of teachers said that the status of the profession had got worse and blamed the government for having failed to listen to or value them.

There is a growing sense of weariness and dissatisfaction. Over the past decade the increase in the number of teachers has not kept pace with the rise in pupils and so the ratio of pupils to teachers has gone up. The latest Teaching and Learning International Survey revealed that teachers in England worked more hours than anywhere else in Europe. Only teachers in Japan, Kazakhstan and Alberta, Canada, did more. The OECD found that full-time secondary school teachers in England reported working on average 49.3 hours a week, compared to the OECD average of 41 hours, the fourth highest of the 48 countries polled. Primary school teachers said they worked 52.1 hours a week, more than any other country except Japan.

Increasingly, teachers are being asked to become psychotherapists, social workers and even housing officers as well as educators. This is emotionally and physically exhausting for staff who are already feeling overstretched. As Evelyn Forde, a head teacher and *Times* commissioner, explained: "There's a pressure on school leaders and teachers to be the answer to absolutely everything, particularly as we come out of the pandemic. We went to deliver meals; now we are mental health workers and we're on suicide watch for young people; but we've had no training for that. Yes, we must elevate the status of teachers, but I think we need to be kind to them and we need to look after them because many of us are at breaking point."

Meanwhile, the joy of teaching has been drummed out by a blizzard of appraisals, marking, data management and regimented lesson plans. Every week 11 per cent of primary teachers and 6 per cent of secondary teachers spend seven or more hours a

week, the equivalent of a whole working day, marking students' work. Many schools also require teachers to submit regular "data drops" plotting pupils' progress so that heads can have information on hand to present to Ofsted if the inspectors suddenly turn up. Almost half of teachers told Teacher Tapp that they had to accumulate and submit information on a range of metrics once a term and 40 per cent had to do so every half term. It can be incredibly time-consuming. Another study found that 44 per cent of primary teachers were tracking and submitting more than fifty objectives over a year, suggesting that quite detailed attainment information on small chunks of the curriculum were being recorded.

Bright young graduates who joined the profession full of idealism and enthusiasm quickly have their optimism ground down by the soul-destroying cycle of metrics and marking. A survey by the Council of British International Schools found that a third of teachers who left Britain to work abroad cited "dissatisfaction with the home education system" as their reason. Mehreen Baig, who is now a television presenter, trained as a teacher because she wanted to "save the world" but explained that she had left the profession because it became impossible to keep up with the amount of work. "I was working around the clock," she said. "There was no such thing as work-life balance … I thought 'I'm going to make them love Shakespeare' [but] the magnitude of the intellectual and physical and emotional, hourly and daily demand was unsustainable in the end."

Older teachers feel patronised and disempowered. Lucy Kellaway, who joined the profession after a career in journalism, said the one policy that would most help with retention was to stop "treating teachers like children". She told her fellow commissioners: "It's absolutely staggering when you come in from the outside, the extent to which teachers are treated like 5-year-olds and 62-year-old teachers don't like that particularly, but actually neither do 22-year-old ones. At the centre of it is very low trust."

The system has got into a vicious cycle of suspicion. The Department for Education (DfE) mistrusts teachers, heads are disillusioned with Whitehall and

PUPIL-TEACHER RATIOS

Number of pupils to qualified teachers in England

there has been an almost total breakdown of trust between Ofsted and the schools it is supposed to be holding to account. When the commission asked teachers to rate Ofsted in the way that Ofsted ranks schools less than 0.5 per cent gave it an "outstanding" rating. An overwhelming majority — 79 per cent — categorised Ofsted as "inadequate" or "requires improvement". Only 9 per cent of teachers in the Teacher Tapp poll said they had confidence in it. Most damning was the finding that only 9 per cent thought Ofsted had improved the education at their school. Even allowing for a natural underlying hostility to an inspectorate among a group of professionals, this is a completely unsustainable level of dysfunctionality. The amount of stress generated by inspections was highlighted by the fact that 62 per cent of heads said that reforming Ofsted to be more supportive and less punitive would make the biggest difference to their morale, ahead of either workload or pay.

Dame Alison Peacock, the chief executive of the Chartered College of Teaching, told the commission that the hard work and dedication of teachers was being undermined by an education system that was not fit for purpose. "Teaching in 2021 is driven by a need for compliance. Teachers are constantly looking over their shoulder, whether it's about Ofsted judgments, whether it's about attainment, whether it's about workload, teachers are being driven and we need teachers to be inspired. We need them to be joyful, we need them to love working with children. We need them to feel that the reason they come to work every day is because they can make a difference and that they can contribute to society." She pointed out that even during the pandemic Amanda Spielman, the chief inspector, criticised schools that were handing out food parcels to hungry families instead of focusing purely on education. "To be a teacher is to care deeply about your students, and if you're not in a position where you can enact things that make a difference, frustration builds, and I think that is the biggest reason for the high attrition rates from teaching. It's not that teachers don't want to work hard, it's just that teachers need to feel recognised and they need to be appreciated, and they need to have the freedom to do what feels right, both academically for their children but also socially. Ofsted, frankly, it's a reign of terror."

Peacock explained why in her view teachers had lost faith in the inspectorate. "They come in, start to talk in highfalutin language about research outcomes and curriculum coherence … We need to be more confident as a profession. The issue with Ofsted is that they pretty much have a script and a set of things they have to follow. Even when they lead online training it's all to the script because it will have been checked by Amanda. I think she thinks teachers ought to be … like robots and then we would all stick to the script and it would all be fine, and anybody who couldn't control themselves would have to be chucked out. But that doesn't work at scale."

A whole industry has grown up of consultants, who charge a fortune to advise schools about how to deal with Ofsted and even run "Mocksted" inspections. According to the NEU, schools are spending more than £1.5 billion a year on "bought-in professional services", including Ofsted consultants. Even last year, when schools were shut during the pandemic, the consultancy fees came to more than £1.3 billion. The chief inspector has warned them that they are wasting their money but the stakes are so high that many heads are desperate.

The culture of fear is driving out talented high-flyers. Ryan Wilson, author of *Let That Be A Lesson*, told the commission that he had wanted to be a teacher from the age of eight and spent ten years in the classroom but he quit in 2016 and is now a radio producer. "The bit in the classroom I loved, and still love," he said, but the "hyper-accountability and pressure" became unbearable. "You end up with a whole school on a knife edge about Ofsted coming in. I felt everything in the school was being done because it's what Ofsted want to see. I found it very hard to deal with, that we weren't doing things because it was the right thing for children, we were doing it because Ofsted wanted to see it. The straw that broke the camel's back for me was when we were discussing having a moment's silence for one of the terrorist attacks. I said I thought we should because it was a national event and the head said, 'I agree with Ryan because Ofsted love to see that kind of thing.' … Of course there has to be accountability in the education system, but in my view Ofsted has become a toxic brand. It's become synonymous with stress and a punitive approach to inspection."

Source: School workforce in England

Mehreen Baig said that her former school would tell disruptive pupils to stay at home, or send them off on a trip, when the inspectors were due. "Ofsted's specific list is based on what you're doing wrong," she said. "It's not done as supportive or to help you improve."

Tim Brighouse, who led the London Challenge, which transformed schools in the capital, said that its success had been down, at least in part, to the fact that schools and their teachers knew that they were encouraged to think for themselves. Now, he believes that with the current incarnation of Ofsted the DfE has "effectively created the equivalent of a sheepdog which is eating their own flock". Katharine Barbalsingh, known as Britain's "strictest head teacher" and the government's social mobility tsar, has called for the inspectorate to be abolished. Ofsted, she declared on Twitter, was a "huge distraction from what matters" and did catastrophic damage to heads' ability to think for themselves. Far from improving education, she said: "Ofsted makes schools worse."

Something has clearly gone wrong. Ofsted has a crucial role to play, both in holding schools to account and in giving parents information, but its whole purpose should be to improve schools rather than to punish them. Sir Anthony Seldon, the former head and vice-chancellor of Wellington College, said the inspectorate was failing to follow the basic rule of a good education system. "Every head and every teacher knows that those who use fear and unpredictability achieve far less genuine learning than those who are supportive and empathetic. Why on earth then do we allow the supreme school accountability body to get away year after year using precisely this approach?"

Reform is needed to make Ofsted feel less like a "big stick" and more of a "helping hand". This is already the approach in Wales, where Owen Evans, the chief inspector, has recently abolished gradings. He told the commission: "We'll sit down with the school at the end of the inspection and say, 'Look, you're good at this, these are the areas you need to focus on to improve,' and the whole message is about working together to improve things." There is no reason Ofsted inspections should not be planned in advance rather than sprung on schools the day before they are due

to take place. The criteria used to assess schools must also be widened to encourage a rounded education. Of course, Ofsted has to uphold academic standards and defend rigour, but it should also assess pupil wellbeing, the quality of enrichment activities, teacher morale, attendance and inclusion. As in New York City, schools should get a "report card" setting out this broader set of metrics along with the traditional measures. *The Times* will review its own school league tables to see how they can reflect a wider definition of success.

Trust must be restored in the education system. Teaching will only ever be attractive to the brightest and the best if it is allowed to be a creative, stimulating and inspiring role. Andreas Schleicher, the OECD education director, said the best education systems in the world had made teaching "intellectually attractive" and created a "supportive ecosystem" that was in his view far more important than money. "They offer their teachers an amazing work environment, they give their teachers time to do other things and to work with their colleagues, to frame good practice. Teachers are not just instructors, they're also great mentors and facilitators." It is more about control than cash. In Estonia Liina Kersna, the education minister, told the commission: "We trust our teachers and our teachers have a lot of autonomy. We have moved away from controlling educational institutions to supporting education systems." In Finland primary school teachers looked baffled when they were asked about inspection because there is no such thing.

There has to be a concerted effort to raise the status of teaching in this country and also make it more intellectually engaging. Teachers are not the problem in the education system, as they are sometimes treated by politicians: they are part of the solution. Becky Francis, chief executive of the government-backed research organisation the Education Endowment Foundation, said all the evidence showed that it was "quality teaching practice that makes the biggest difference to pupil progress, and that's doubly true for disadvantaged students".

The commission proposes that more professional development should be backed by revalidation every five years by a beefed up Chartered College of Teaching. This would mirror the certification process for doctors run by the General Medical Council and put an emphasis on excellence while ensuring that all teachers were up to date with new technology as well as developments in neuroscience and pedagogy.

The government has already increased the amount of on-the-job training available to teachers, which is welcome, but there is more to do. In Singapore and Shanghai teachers spend only half their working week in the classroom, leaving the rest of the time free to study, visit other schools or plan lessons. The City Learning Trust in Stoke-on-Trent is now trying out the same approach and offering teachers 100 hours of compulsory professional development a year. It is too early to see the impact on academic outcomes but the scheme has already led to a sixfold rise in applications for jobs in an area where schools had previously struggled to recruit and retain staff. Carl Ward, the chief executive of the trust, who introduced the programme after having visited Singapore, said that it had transformed teacher morale and improved standards in the classroom. "Recruitment into a city like Stoke-on-Trent isn't easy," he told the commission. "Teachers don't move for money so the key thing is unlocking the talent of your staff. The Singapore education system is No1 in the world in the Pisa league tables and lots of other rankings

CASE STUDY

'Creativity is not just about finger painting — it's a way of thinking'

Pate's Grammar School in Cheltenham is one of the top academic secondaries in the country — 95 per cent of its A-level students in 2019 achieved an A* — but it prides itself on not being a hothouse and puts creativity at the heart of the curriculum.

On Tuesday afternoons the timetable stops and children have a programme of non-academic activities such as sewing, cookery, bushcraft or dance. "If you're really into sport, music or drama then there are clubs and societies at lunchtimes and after school," Russel Ellicott, the headmaster,

It helps them to become more rounded individuals and more reslilent

said. "The aim of this is to get students involved in things which are completely outside of their comfort zone."

Pupils can earn badges in personal development, which is taught for two hours a week with classes on everything from financial literacy to the menopause. "Wellbeing is at the heart of that. The idea is that our programme helps students to become more rounded individuals, to care for each other and to be more resilient," Ellicott said. "It's a coherent package that's taught by specialist teachers rather than an add-on that a form teacher has to teach at registration."

Once every half term there is a flexible learning day and students work in teams on academic projects. "Our job is to try and make sure that we are helping them to be the best learner they can possibly be in a world which is less defined than it was when I was at school," Ellicott said. "When our students go off to university, and later on when they go into the world of work, they will be asked to be creative, flexible, innovative, entrepreneurial. Why should we not be teaching that in school? Knowledge is important but not as important as what you're going to do with that knowledge."

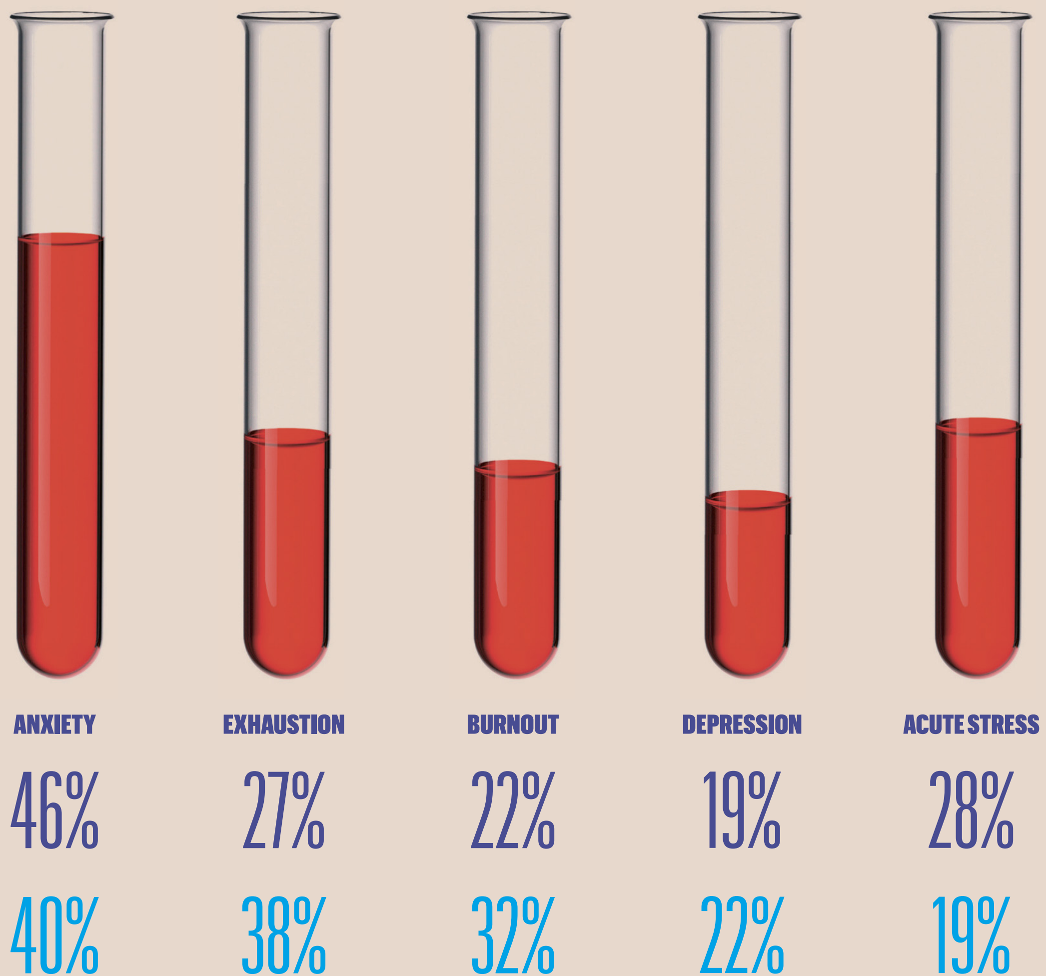
Teachers are "constantly rethinking" the approach to education. "There are going to be times when we're going to set you work to do before the lesson: the flipped learning principle. Or there's very little teacher input at all and it's all about you trying to find information out and to work within groups."

Ellicott has been working with 30 schools in Shanghai to boost creativity and he believes that it should be central to education in this country too. In China "there's an understanding that those skills of creativity and innovation are a priority for education", he said. "If you talk about a creative person, you're not talking about a finger painter. The definition of creativity is doing things differently, thinking of innovative, exciting ways to do something which has been done in a similar way for years. The idea that we would not want to promote creativity just seems slightly absurd to me. If we think of education as a linear experience that is only determined by your success at GCSEs and A-levels that's a massive opportunity wasted."

STAFF MENTAL HEALTH

Proportion of education staff who reported experiencing symptoms of poor mental health

- Teacher
- Senior leader



Source: Education support

quite simply because it puts teachers at the core of everything they do."

There should be a new category of Consultant Teachers so that staff can work towards promotion within the classroom, rather than having to move into management. In Singapore, elite Master Teachers oversee the curriculum and training and they have also been successfully trialled here. The Harris Federation, which runs a chain of high-performing schools in London, has 60 specialist subject consultants who work across the group and lead professional development. Sir Dan Moynihan, the chief executive, identified them as the crucial factor in the success of his schools. "We all know teachers coming off the production line are not the finished article," he said. "It needs constant reflection, constant engagement with coaching and mentoring and constant discussion with others who are involved in this in order to keep people skilled and getting better."

An undergraduate teaching degree apprenticeship would boost recruitment, increase the diversity of the profession and make it easier for teaching assistants to progress. Until now ministers have always insisted that teachers should have a degree before they start their training, but if the government is serious about enhancing the prestige of apprenticeships then that should start in the classroom. The creation of the new role would highlight the option to pupils while also validating the route within the teaching profession. Apprentice teachers would study a subject specialism alongside their professional training, meaning that they would be fully qualified at the end of the course. The Institute for Apprenticeships and Technical Education, the employer-led arms-length body that devises the qualifications, told the commission that a teaching apprenticeship could be feasible and credible.

Russell Hobby, the chief executive of Teach First, which sends high-flying graduates into deprived schools, said that there should be multiple ways into the profession. "There is no one right way of creating a teacher and different people will thrive through different routes," he said. "I think it's important not to confuse proxies of potential, such as degree class and the university that people go to, with who will make a great teacher." He said that a teaching apprenticeship might also encourage more pupils from disadvantaged backgrounds to go into the profession and become role models for the next generation. According to the DfE's data, in 2019, 86 per cent of all teachers and 93 per cent of heads in English state schools were white British and, as of 2020, 75 per cent of classroom teachers and 67 per cent of heads were female. Almost 90 per cent of English state schools do not have a non-white teacher in their senior leadership team. This is clearly a problem. "It's far too easy for young people from under-represented backgrounds of which race is one, but class is another, to conclude that they're not welcome in certain professions or through certain qualifications and so on," Hobby said. "That's why having a school workforce that is representative of the communities that they serve is so important. And if we want more diverse entrants to the teaching profession, we also need to see more diverse leadership."

> "Teachers don't move for money so the key thing is unlocking the talent of staff

A National Leadership Programme should be established for head teachers. Baroness Shephard of Northwold, a former teacher, school inspector and education secretary, told the commission: "I spent a lot of my life in education and I know perfectly well that the quality of a school is the quality of the leader, there's no question about it. I think good school leaders are probably born but they can certainly be helped very much by sharing experience and working together."

Singapore has a six-month full-time programme

PARENT PANEL

'You can resit GCSEs but you can't regain that social development'

Schools have turned into a "Gradgrindian misery", according to a focus group of parents convened by the online forum Mumsnet. The promise of a broad and balanced curriculum has not been delivered.

Jade, whose son will be sitting GCSEs next year, said: "It just seems to be laborious and the same things every day: he's back and forth to do his work; there doesn't seem to be anything extracurricular."

The commission has heard evidence that the introduction of performance measures including the EBacc and Progress 8 have accelerated pressures on schools to help students to secure top grades in the traditionally academic subjects. The price? The breadth of the curriculum has been squeezed, pushing out creative subjects, practical work, sports, trips and extracurricular activities and hampering social justice. Pupils from the wealthiest backgrounds are three times more likely to take up music classes out of school hours than those from the poorest backgrounds, and there is a 20 per cent participation gap in sport.

Esther, a mother of two children at state schools in London, said: "It's those little possibilities of extra opportunities, which is what you remember from your childhood and helps you choose your path in life."

Joanna, a mother of two boys, felt there should be "much more time for team building, to build their resilience".

Jade added her backing for extracurricular activity. "It's as important as the education," she said. "You can go and resit your GCSEs but you can't regain that social development."

Like many parents, Joanna would welcome a broader assessment of a pupil's potential: "Some children don't excel in exams – they get too nervous – and to judge their entire performance on a two-hour session on a morning when they could be feeling incredibly anxious about it, I do think it would be much better to have a mix.

"Obviously some subjects do need exams - you have to know the principles of it but there should be more coursework based, more teamwork based, more presentation skills in other things as well, to make them a bit more of a rounded, fair system."

Jade agreed and added: "It doesn't give them a chance to shine throughout the whole two years, it just forces them to have a really good day. And I think it's quite emotionally draining to have so much pressure on you that I'm sure a lot of kids are just going to crash."

The pressure of high-stakes exams and academic achievement at 16 and 18 can have a corrosive effect on children's mental health. "I am definitely now focusing more on mental health," said Joanna.

"I'm very much a firm believer that if your child isn't happy, however good the school is, they're not going to learn. If that's sorted, the academic stuff will follow.

If there are gaps, they will catch-up in time, but only if they're happy and only if their mental health is in the right place."

Holly Papworth

93%

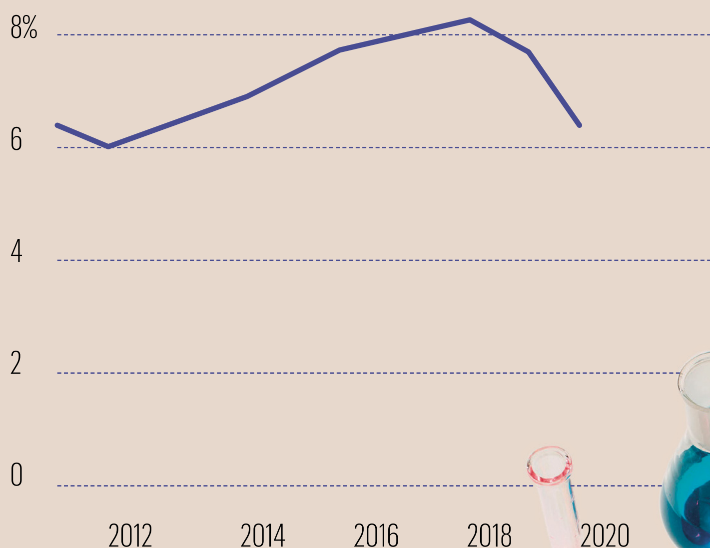
of heads in English state schools in 2019 were white British

for specially selected vice-principals and civil servants to prepare them for school leadership. There are already some programmes in the UK that could be learnt from and built on. In Scotland the businessman Sir Tom Hunter's philanthropic Hunter Foundation takes leaders away from school on a residential course for professional development and peer-to-peer support. In England Big Education's two-year leadership development programme encourages heads to "innovate with rigour" through workshops and courses. The National Leadership Centre brings senior figures together from across different public services — they could be from the police, the NHS or education — to help people to work together. In all these cases, one of the main benefits is learning from each other and building a network of continuing support for leaders who often feel quite isolated.

David Albury, a former Downing Street strategist who now advises governments around the world on school reform, identified teacher autonomy and professional development as the key drivers of success in the best systems. He gave the example of a group of teachers he met in a slum on the outskirts of Rio de Janeiro in Brazil. Like Prez in *The Wire*, they were struggling to engage their pupils in maths so they "designed a curriculum for the boys that was entirely around one problem, which was: how does Cristiano Ronaldo kick the ball in such a way that that ball curves over the defenders and into the net? This is a massively complex mathematical problem but the teachers built it around the passions and interests of the students." Their enthusiasm was infectious and pupils who might otherwise have ended up in drug gangs started to learn. "It's extraordinary, the energy you see from teachers when you liberate them," Albury said. And new technology has the potential to free up teachers to do the work they love best.

TEACHER RETENTION

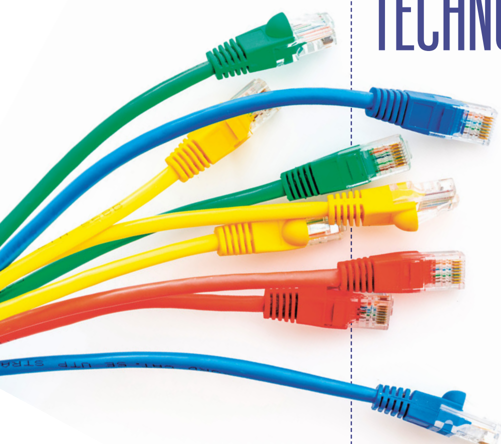
Proportion of full-time teachers in England leaving the profession for reasons other than retirement or death



Source: School Teachers' Review Body

1 2 3 4 5 **6** 7 8 9 10

TECHNOLOGY



TEACHING IN THE DIGITAL AGE

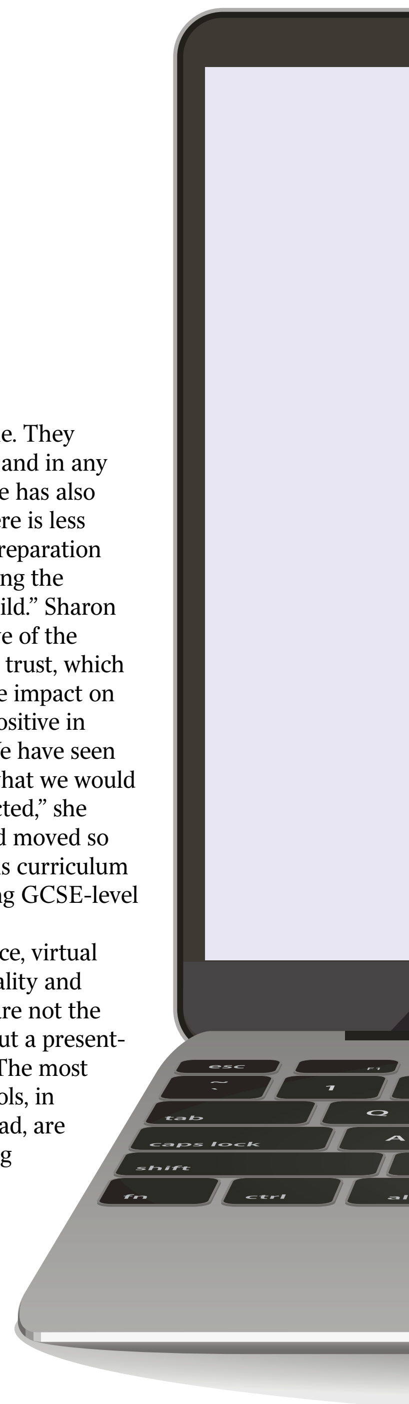
The pandemic lockdowns helped to illustrate how the fourth industrial revolution could transform the way schools operate in the 21st century

At St John's Church of England Primary School in Wigan, the children in year 6 are studying science. One pupil is learning about vitamins, another is looking at a diagram of muscles in the human arm and a third is being tested on tabulation. All the students are on iPads, with a personalised programme of lessons created by artificial intelligence (AI). The machine analyses their work, and then tailors the learning specifically to each child, allowing them to move at their own pace and fill in any gaps in their knowledge. There is an emoji button for them to press to show how they are feeling about what they are studying.

Each pupil has a "dashboard" with tasks set either by the teacher or the AI, and a section telling them their strengths and areas for improvement. Children can follow their progress in spelling, grammar, maths or science on a graph. The teachers also have iPads which show in real time how each child is doing and what their progress has been over the term. The AI, developed by Century Tech, a British educational technology company, even tells them how long the pupils spent on each question and analyses their swipes and strokes.

Laura James, the principal at the school, a state primary in one of the most deprived parts of Britain, insists that the children do not spend the whole day staring "robotically" at a screen. They still write in work books and the school has a well-stocked library under its "hybrid" learning model but she said that AI had transformed the education in her school. "It's not a gimmick," she told the commission. "It enhances the education. It's like having a personal tutor for each child and the parents like it for that reason. For the children it's really made a difference. There's no wasted time. They can learn at any time and in any place." Teacher morale has also increased because there is less marking and lesson preparation every week. "It's helping the teacher to help the child." Sharon Bruton, chief executive of the Quest multi-academy trust, which runs St John's, said the impact on outcomes had been positive in all its five schools. "We have seen progress well above what we would previously have expected," she said. One ten-year-old moved so fast through the maths curriculum that he ended up doing GCSE-level work.

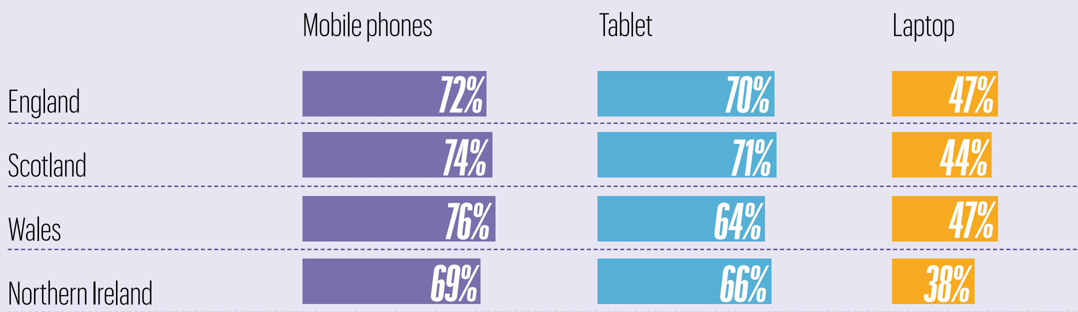
Artificial intelligence, virtual reality, augmented reality and adaptive assessment are not the future of education, but a present-day reality for some. The most forward-looking schools, in this country and abroad, are already revolutionising the way they teach to take advantage of the latest technologies and prepare their students for the digital age. AI has radically altered the worlds of retail, travel and banking. Now what Klaus Schwab, the World Economic Forum founder, calls the "fourth industrial revolution" is moving into education with implications for everything from the curriculum to exams. Sir Anthony Seldon, deputy chairman of the commission, believes: "AI is the most transformative development for education since the printing press." Carefully managed, technology could be the way of squaring the circle and allowing the system to be redesigned at a time when there is no money.



The pandemic dramatically accelerated the digitalisation of education. When schools closed down and learning moved online almost overnight, teachers,

LAPTOP USE

Percentage of children who go online using the following devices, by region of the UK



Source: Ofcom

148m

Number of Oak National Academy online lessons taken so far

pupils and parents adapted with remarkable speed. More than 1.8 million laptops and computers were distributed by the Department for Education (DfE). Oak National Academy, the government-funded online school that was set up in a matter of weeks at the start of the pandemic, now has 10,000 lessons on its database covering virtually the whole national curriculum. So far pupils have taken part in nearly 148 million classes and during the lockdowns Oak had an average of 2.5 million users a week. Even after schools reopened, 170,000 pupils and 40,000 teachers were still logging in every seven days. There has also been a wider shift in how schools operate. According to a Teacher Tapp poll, more than half of teachers have switched to setting and collecting homework online.

The pioneers are moving on from remote Teams or Zoom lessons to personalised education enabled by AI. Unlike conventional digital technology, artificial intelligence is adaptive and adjusts to the individual so that pupils can learn when they want, where they want in the way that is perfectly tailored to them. In theory, it is as though each student has a personal tutor presenting them with the right material in the

CASE STUDY

Succeeding where possible but learning from failure

At the Khan Lab Academy in Mountain View, California, the teaching assistants are pupils and the classes are mixed age. There are no grades or homework at this experimental private school, set up in 2014 by Sal Khan, left, the founder of the online Khan Academy, to try new approaches to education in a physical campus.

Students move at their own pace, following an individual programme of online Khan Academy lessons, supported by teachers when needed. Under Khan's "mastery" approach to learning, they must demonstrate that they have properly understood each topic before moving on, so that they do not end up with gaps in their knowledge.

The brightest can race through so quickly that they end up taking university courses but there is no shame or stigma in taking longer. Pupils work as tutors to each other and to children in other schools.

In the data science class, students aged between 14 and 18 sit at a long conference table analysing voter behaviour at the last US presidential election. The room is buzzing with chatter and the session is led by a pupil.

Learning from failure is encouraged, as are creativity, team work and entrepreneurialism. Several students have already set up their own businesses. Khan believes that the traditional classroom model, in which all pupils study the same thing at the same time, "simply doesn't fit our changing needs. It's a fundamentally passive way of learning."

correct order to fill in the gaps in their knowledge, then giving them feedback at any time of the day or night. That could mean helping children to catch up on lost learning so they do not fall behind, or allowing them to race ahead of the rest of the class so they do not get bored.

The idea is that by targeting the education at precisely the right level, AI turns students into active rather than passive learners, motivating them to want to deepen their knowledge by giving instant feedback. Teachers can be freed up to concentrate on the bit of the job they love best because the machine can do most of the marking and data collection. There are also potential benefits for children with special educational needs and disabilities from a machine that will allow pupils to dictate their answers and can turn text into audio files. Used properly, its proponents suggest, AI could simultaneously boost social mobility, raise standards, improve staff morale and save money.

Some schools are using virtual or augmented reality to bring lessons to life. At Anson Primary in Brent, northwest London, pupils scanned an app on their iPads and watched the ruins of a Roman villa appear before them in the playground. They were able to move around the ruin, explore the walkways and look for artefacts. Back in the classroom, they wrote vividly about the ancient world they had discovered. "Learning was no longer abstract, but real, lived in their memory," Simon Pile, the deputy head teacher said. He described how children as young as seven were able to construct their own version of the Great Hall from the epic poem *Beowulf* and walk around their creation as they heard the Anglo-Saxon work being read aloud. From sharks in the corridor, to volcanoes in the gym "anything is possible," he explained, and the innovation was unlocking children's curiosity with immersive, interactive learning. "We open their eyes to the possibility that there is more to life beyond their own front door." Another app allows children to project 3D geometric shapes on the desk in front of them as they calculate angles in a trigonometry class. Instead of writing in exercise books, some teachers now record video messages, which they say is quicker and more personal.

The film producer Lord Puttnam showed the commission a film of pupils interacting virtually with Holocaust survivors, using an AI tool that created a powerful emotional bond as well as a profound understanding of the horrors of the Second World War. "We're dealing with a generation who are extremely visual, as opposed to textual, in their instincts," he said. "They learn that way. Their brains are becoming wired slightly differently from the brains that I was brought up with at school. I think that's one of the things we're not fully appreciating, or necessarily taking advantage of. With the advent of AI and personalised learning, our ability to do things that were a dream in the 1990s has actually become potentially a reality."

The late Stephen Hawking once said: "Every aspect of our lives will be transformed … AI will be either the best or the worst thing ever to happen to humanity." He thought AI could be "the biggest event in the history of our civilisation". There is an enormous opportunity here but there is also a risk. Ofcom says that almost a million children can still access the internet only through a mobile phone and half a million have no internet access at all. About 9,000 schools lack a consistent broadband connection. One danger is that the existing disadvantage gap in education will be made worse by the digital divide. A

72%

Growth in the value of the educational technology sector in 2020

"The curriculum is set up for knowledge not for problem-solving

reduction in social connection could fuel the mental health crisis in the young. There are also serious ethical issues to resolve. Artificial intelligence depends on accumulating huge amounts of data, which is controversial when it involves adults and even more so with children. Parents and politicians will rightly be concerned about how any data collected for educational purposes will be used. Clear guidelines and protections must be put in place to ensure that this valuable resource is not abused, by either tech companies or the state.

Yet the education system does not exist in a vacuum and it cannot ignore the world in which children are growing up. A report by the government's AI Council estimated that AI could provide a 10 per cent increase in GDP in 2030, but warned of huge skills shortages. More than 90 per cent of businesses say that having a basic level of digital skills is important for employees at their organisation but 39 per cent have shortages in technological proficiency. Although 88 per cent of young people say that digital skills will be essential for their career, only 18 per cent are very confident that they have the advanced digital skills that employers need. The number of GCSE entries in computing or information and communication technology (ICT) dropped 40 per cent in the five years before the pandemic.

Education has been much slower than other sectors to exploit the power of AI. The tech entrepreneur Kathryn Parsons, who successfully campaigned to get coding on to the national curriculum, said: "The world of business has transformed incredibly in the past five to ten years. The technologies to transform the world have been created and those businesses are at the coalface so they are adapting or they won't exist in twenty years. But education hasn't really had that same pressure point so it hasn't had to transform to meet the needs of how the world is changing. There is a chasm between where education is and where the world of business is."

The UK educational technology sector is now valued at £3.2 billion, having grown by 72 per cent in 2020. Almost a thousand schools in England use the Century Tech platform, which costs 50p per student a month. Millions more pupils use Seneca, Tassomai, Explore AI, Carnegie Learning and other adaptive learning platforms. The trailblazing schools trying out the new platforms, however, are still the exception rather than the rule. Universities have simply replaced face-to-face teaching with video lectures, an analogue response in a digital age, which ignores the power of technology to individualise learning instead of reducing human interaction. Priya Lakhani, the founder of Century Tech and a member of the government's AI Council, an independent advisory body, said that ministers should seize the opportunity or risk falling behind. "We have technology that will personalise for the child in real time. I have a map of schools across the United Kingdom, county by county, how they're performing, red, amber, green, in literacy and numeracy and the sciences. The DfE gets that every August. I get it every day. That is what the AI in education and schools is trying to do. We inform teachers, we inform parents, we inform kids of what they need to do. Why is it that other countries are moving at speed to try and get that across in their state sectors, but we are not?"

For better or worse, technology will turn education on its head over the coming decade so the system needs to prepare. Philip Colligan, chief executive of

CASE STUDY

Primary school with a (virtual) personal tutor for every student

Pupils at St John's Church of England Primary School in Wigan have a personalised programme of lessons, created by artificial intelligence (AI). They can go at their own speed and work in the classroom or at home with iPads bought by the school.

That flexibility was invaluable during the pandemic and the pupils love this new way of studying. Holly Graham, 10, sometimes spends three hours doing maths questions after school. "It's definitely helped me with my learning," she said.

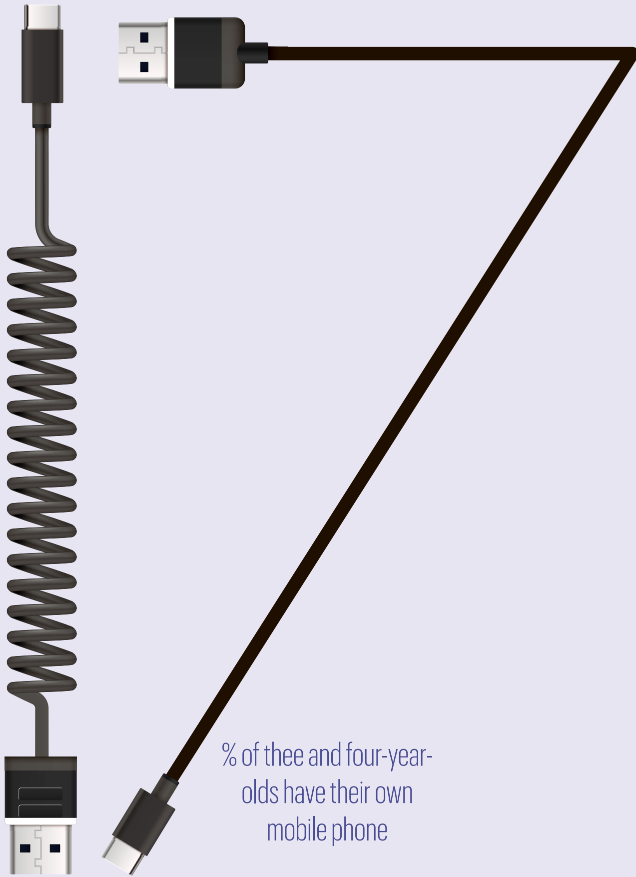
Max Ode, 10 agreed. "The best thing about it is it challenges you to go further and faster," he said.

As in a computer game, there are competitions and incentives. Each child has their own "dashboard" with tasks set either by the teacher or the AI and a section telling them their strengths and areas for improvement. They can view their progress in every subject on a graph and also express how they feel about the lesson through an emoji button. One boy who is working on grammar types shows a frustrated face. The AI will adjust the teaching to go over the material more slowly and make sure he understands the concepts before moving on to the next question.

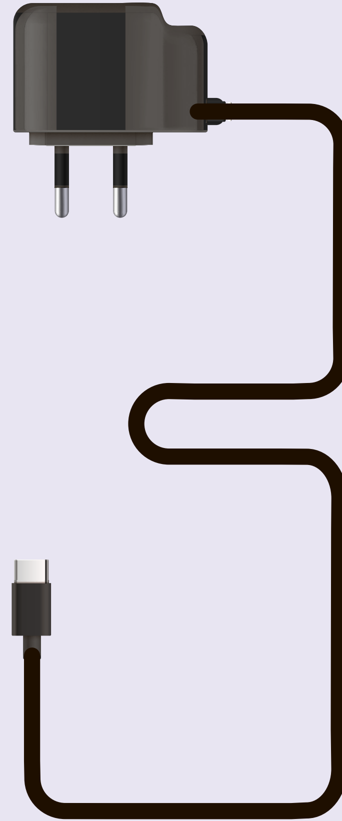
Teachers can monitor in real time what each pupil is doing and how they have developed over the term. The AI even tells them how long the pupils spent on each question and analyses the swipes and strokes used by the student. A scatter graph of pupil progress indicates who needs more support and who would benefit from more stretching tasks. Laura James, the principal said: "It's like having a personal tutor for each child."

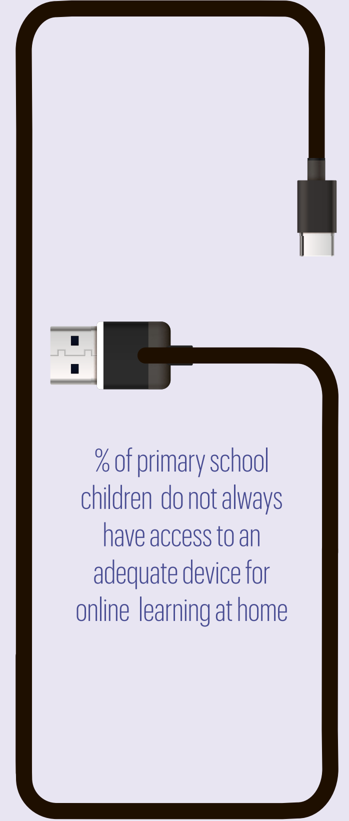
MAKING CONNECTIONS

Many children still do not have good enough access to technology to be able to make the most of the educational opportunities

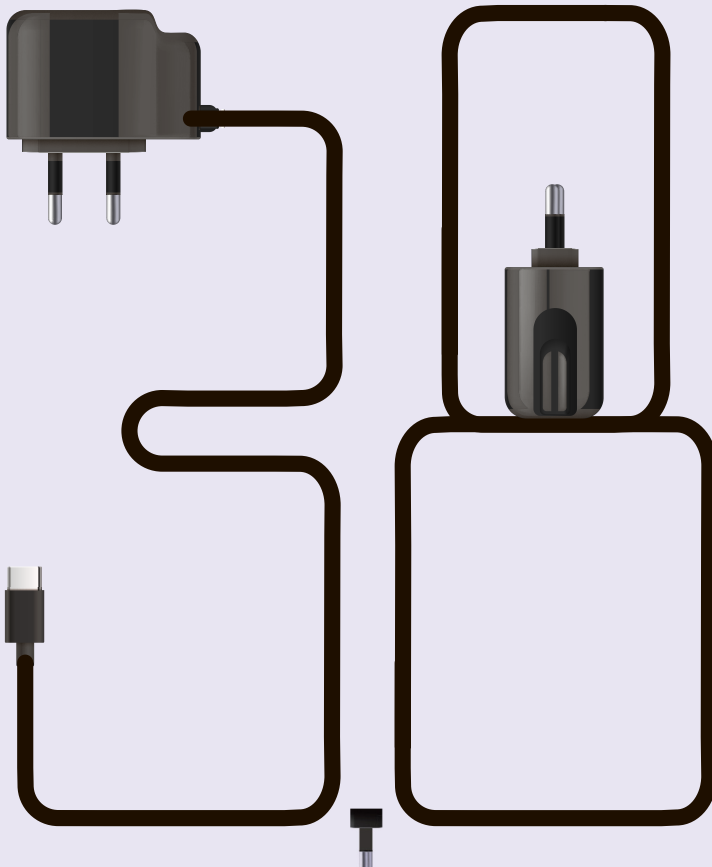


% of thee and four-year-olds have their own mobile phone

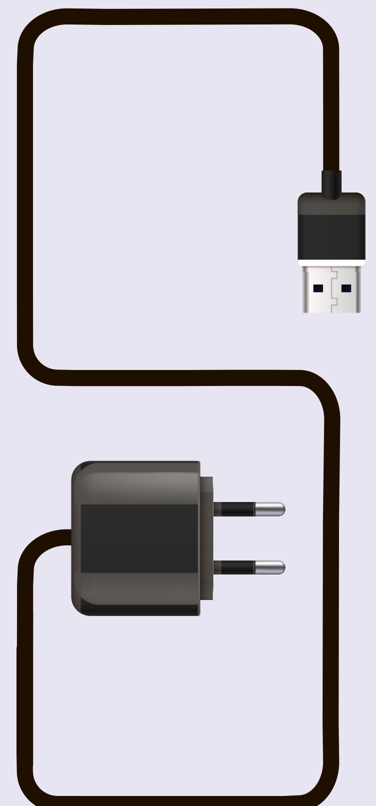




% of primary school children do not always have access to an adequate device for online learning at home



Number of schools in postcodes without access to full-fibre broadband and not in areas of proposed commercial build within the next five years



the Raspberry Pi Foundation, an educational charity that has trained more than 30,000 teachers over the past four years, says children "are growing up in a world where everything is being transformed by this explosion: artificial intelligence, machine learning, robotics, computer vision, natural language processing. AI is transforming every corner of the economy and creating lots of amazing opportunities but those opportunities are not evenly distributed. One of the challenges is, how do we make sure … that this wave of technological innovation is a driver of social mobility, not a cause of greater inequality? Kids are going to primary school already using Siri and Alexa to help them with their homework and at the moment we don't do anything to explain to them how those technologies work. It's not all about being able to programme AI systems; it's also about social and ethical issues. AI is … not just about something that sits inside computer science or advanced maths."

There are some foundations that must be put in place. Every child should have a data-enabled device, provided free to those who cannot afford to buy their own. The laptop or tablet is the modern-day equivalent of a pencil and paper so this must be a universal resource, with schools given extra money, if needed, to fund devices through the pupil premium mechanism. The DfE could help to identify suitable machines and arrange a collective purchasing or leasing arrangement to reduce cost. Young people, teachers and parents must also be able to access free educational services online, as happened for certain websites during the pandemic. The government should draw up a list of educational services that are exempt from data charges, which would then be automatically "zero-rated" by all networks on all provider plans: a digital version of the free 0800 number.

Matt Hood, principal of Oak National Academy, said the coronavirus crisis had shown that technology was now an essential educational tool. "If you'd asked me before the pandemic, did I think that a good use of scarce resources in our education system was to provide a device and the associated data to every pupil, I think I would have been firmly on the side of no. I've changed my mind over the pandemic. I believe that we have passed a tipping point where access to education through a device and the associated data is now critical. In places like sub-Saharan Africa, the conversation is about how we improve access to education, particularly for girls. We are not used to having a conversation about access to education in the fifth, sixth richest country in the world, and we need to get a little bit more used to having that conversation. I don't think it is credible to say that you can access education on the same terms as everybody else in 2022, post-pandemic, with the shifts that we have seen, if you don't have an internet-enabled laptop device."

The government has asked the Education Endowment Foundation to assess the impact of AI platforms and as the evidence emerges schools should be encouraged to capitalise on the most effective innovations to personalise learning for their pupils and reduce teacher workload. A flagship Technology Academy should be set up to test innovations in education, AI and virtual reality. One had been proposed as a free school, but stalled: it needs to be revived. Digital skills should be a core element of teacher training, both for new teachers and as part of continuing professional development for existing ones. When software programmers and AI experts can earn ten times as much in industry as in education, the system needs to make sure that its own workforce is equipped to hand on these essential skills.

Exams must very rapidly evolve. Pearson, which owns the EdExcel exam board, has already introduced its first on-screen GCSE in computer science. Its Pearson Test for English, used to assess international students and immigrants applying for a visa, is conducted entirely online and assessed by AI, with results delivered within 48 hours. Sharon Hague, managing director of Pearson school qualifications, said the technology existed to move GCSEs and A-levels online almost straight away. "We could take the model we currently have and say everyone sits in an exam hall on a lap top instead of with a pen and paper, but is that really making the most of the opportunity the technology gives you?" she said. "We need to think about the world they are going to be living and working in — what are the knowledge and skills that are going to be really important? — then ask, how do we best assess that?" Eventually AI will allow for more accurate continuous assessment, with teachers able to monitor their pupils' progress without making them sit a test.

There will need to be changes to the curriculum. "To switch a light on, I do not need to know about electricity, voltage or power stations and yet we do teach our children about natural science so that they can understand something about the world that surrounds them," the computer scientist Simon Peyton Jones said. "It's the same with computers. The digital world surrounds us, if anything, in a more pervasive and invasive way, and if we want our children to be the masters of technology and not its slaves, they need to understand something — perhaps at an elementary level — about the way things work."

Digital skills cannot be boxed into a computer or coding class; they must be woven through the whole education system just as technology is integrated into our lives. Tabitha Goldstaub, the tech entrepreneur who heads the AI Council, insisted that the world was changing so fast that adaptability was now as crucial as algebra. "The curriculum is set up for knowledge not for problem-solving, which is what we need our children to be able to understand so that when they leave school [they are prepared for] the jobs that will be there, which are unpredictable," she said. "Even the kids who were at school two years ago wouldn't have known about NFTs [non-fungible tokens] and suddenly there are now people making millions from NFT art. The human skills that we don't see machines taking are things like empathy, understanding, problem-solving, team-work."

Children need the intellectual as well as the practical tools to navigate the brave new world. Jimmy Wales, the founder of Wikipedia, argued that the digital age had transformed the way in which knowledge is acquired, which meant rethinking education. "There's the old model, which is very broadcast, top-down — you receive wisdom from the elders who wrote it down in books for you — whereas Wikipedia is a much more interactive and engaging experience," he said. "Forty years ago the range of information available to students was quite narrow: you could go to the library and you could get newspapers, magazines, books. Now everyone has instant access to everything, include crazy conspiracy theory nonsense. We should elevate information literacy skills to be very high, not just, 'Here's the facts and learn them,' it's, 'Here's how you can critically judge the information.' "

The pace of change will only accelerate over the next five years. A non-violent version of *Assassin's Creed*, one of the highest-selling video game franchises, has been developed as an educational tool based on the Viking conquest in 9th-century England. The entrepreneur Sir Ian Livingstone, the founder of Games Workshop and creator of *Tomb Raider*, is taking it a step further with a school that has a curriculum built on the same principles as video games. Pupils at the Livingstone Academy in Bournemouth are set challenges and work together to complete their missions. "I'm not talking about children playing games all day in the classroom, but using the principles of games-based learning to have a more contextualised applied experience," he said. "You cannot get through a game without problem solving: it's impossible. You learn intuitively, and you can fail in a safe environment. You can all learn at different speeds."

Livingstone told the commission that education needed to feel relevant to a generation that has grown up playing *Minecraft* and *Tomb Raider*. "When we enter this world as babies we interact, we learn through play, we use our hands to contextualise the world. And yet from secondary education onwards it kind of goes against what's natural. It's still the 'sage on the stage' talking at children, requiring them to memorise facts and regurgitate them in order to pass an examination. Children of today interact with everything, they want agency, they want control, they want their entertainment to be interactive. And yet their learning process is still a linear experience. The gamification of learning is going to really change the way the world learns, and I just hope the UK education system understands that this world has been transformed by technology and we have to be at the forefront of that driving the agenda rather than being lame passengers at the back of it."

The tech entrepreneur Brent Hoberman, founder of lastminute.com and made.com, has set up a post-18 coding college 01 Founders that has no teachers, no classrooms, no tuition fees and a guaranteed job for all its graduates. The application process is a computer game and students teach themselves, and each other, to code by solving problems set by the computer. As in a video game, they have to successfully complete each "quest" in order to move on to the next level. "Tech is a great enabler of levelling up," Hoberman said. "It's democratisation. First it was democratisation of travel, then democratisation of furniture and now democratisation of education. It's a wonderful goal. Personalisation is key."

The classroom of the future may look very different, with fewer desks in rows and more flexibility for children to work in groups. Some talk of "schools without walls" with pupils learning independently from home. Rose Luckin, professor of learner-centred design at UCL Knowledge Lab, told the commission that the existing technologies were just the tip of the iceberg. There is a growing body of work exploring the interaction between neuroscience and AI. Researchers are looking at how brain sensors contained in a baseball cap could let a teacher see which parts of their pupils' brains were most active during a lesson, allowing them to tell, for example, whether a student who is staring out of the window is distracted or simply deep in thought. "It doesn't quite exist yet but we have the knowledge and the tools to do it, so that's where it could go," Luckin said.

Wearable technology, an educational version of a Fitbit, could monitor a pupil's mood and stress level. "AI could be acting as a sort of invisible friend for every student that is tracking heart rate, various biological forms of data, neural data, behavioural data. This is all coming to the fore as being possible, but it's very intrusive."

> “When we enter this world as babies we interact, we learn through play

One Chinese primary school made children wear brain-scanning headbands to measure their attention span, with results sent back to a central computer. It abandoned the trial amid privacy concerns. In this country the dilemmas are already emerging. Last year, nine schools in North Ayrshire paused the use of facial recognition to speed up lunch queues after the Information Commissioner's Office intervened. It is crucial that science does not outpace society and clear boundaries must be put in place.

Computers will only ever be part of the solution. Having studied the best education systems in the world, Andreas Schleicher said the human dimension would always be crucial. "Technology can make learning more interactive, more granular, more adaptive to different learning styles, more interesting but it's not a magic power. It depends on the teacher. Technology can amplify great teaching but it will not replace poor teaching. Education is not a transactional business, it's a social and relational enterprise so great teachers and great technology, that's the right combination."

But the world is changing and schools, colleges and universities have to keep up. Other countries are racing ahead of the UK when it comes to using technology in education. In Estonia, famous for its digital innovation, most exams are already held online. Pupils study robotics from the age of 7 and use virtual reality glasses to visit the Arctic Circle in their geography classes or London in their English lessons. In Finland media literacy, including the ability to spot fake news, is a key strand of the national curriculum. In Uruguay some of the poorest families now have more laptops than beds after the government introduced a programme to give a device to every child. China is providing AI across the country for teaching and assessment as well as adapting its curriculum to cover the new technologies. When head teachers visited Shanghai in 2019 for a conference of the International Confederation of Principals, shortly before the earliest cases of the coronavirus emerged in Wuhan, the first item on the agenda was the role of artificial intelligence in education and the keynote speaker was Jack Ma, founder of the technology conglomerate the Alibaba Group.

In the United States 95 per cent of teachers and pupils have a laptop or tablet provided by the school, compared with 35 per cent in the UK. Steve Jobs famously described the computer as "a bicycle for the mind" that gets you where you want to go faster and lets you explore. The tech titans in Silicon Valley understand better than anyone how important it is for education to be reformed so that the humans control the machines and not the other way round. At the Apple headquarters in Cupertino, California, Susan Prescott, vice-president of enterprise and education marketing, argued that economic prosperity depended on human ingenuity. "Creativity doesn't mean 'Have a music and an arts class'. Creativity means across disciplines, how can you bring in ways for kids to engage in the material differently? How do you bring in opportunities for kids to reflect their learning in new ways? How do you use it to get a different, broader view rather than the fact-based stuff? Look at Airbnb or Uber: these were massively culture-changing ideas. Innovation comes with creativity." She is convinced that schools will look

radically different in future. "The walls of schools are not going to go away but I think there will be more flex about what your learning cluster looks like."

Esther Wojcicki, the founder of the Palo Alto High School Media Arts Program and author of *How To Raise Successful People*, told the commission that technology was both "the method and the motive to bring about change". Having retired from teaching, she has created an app called Tract that matches up pupils to tutor each other. More than 20,000 children have signed up in 400 schools. "It's been very successful," she said. "The reason is kids want to learn from kids just a little older. The idea is to build into the education system collaboration and critical-thinking skills and give kids an opportunity to be in a leadership role." Too often, she said, education disempowered children. "It makes them feel like they can't do anything. A typical school is telling you what you're doing wrong all the time. There's no room for questioning so a lot of kids just come out feeling very fearful. My goal with my children was always to make them feel capable in whatever environment they were in. I basically said the more I do for them the less empowered they are."

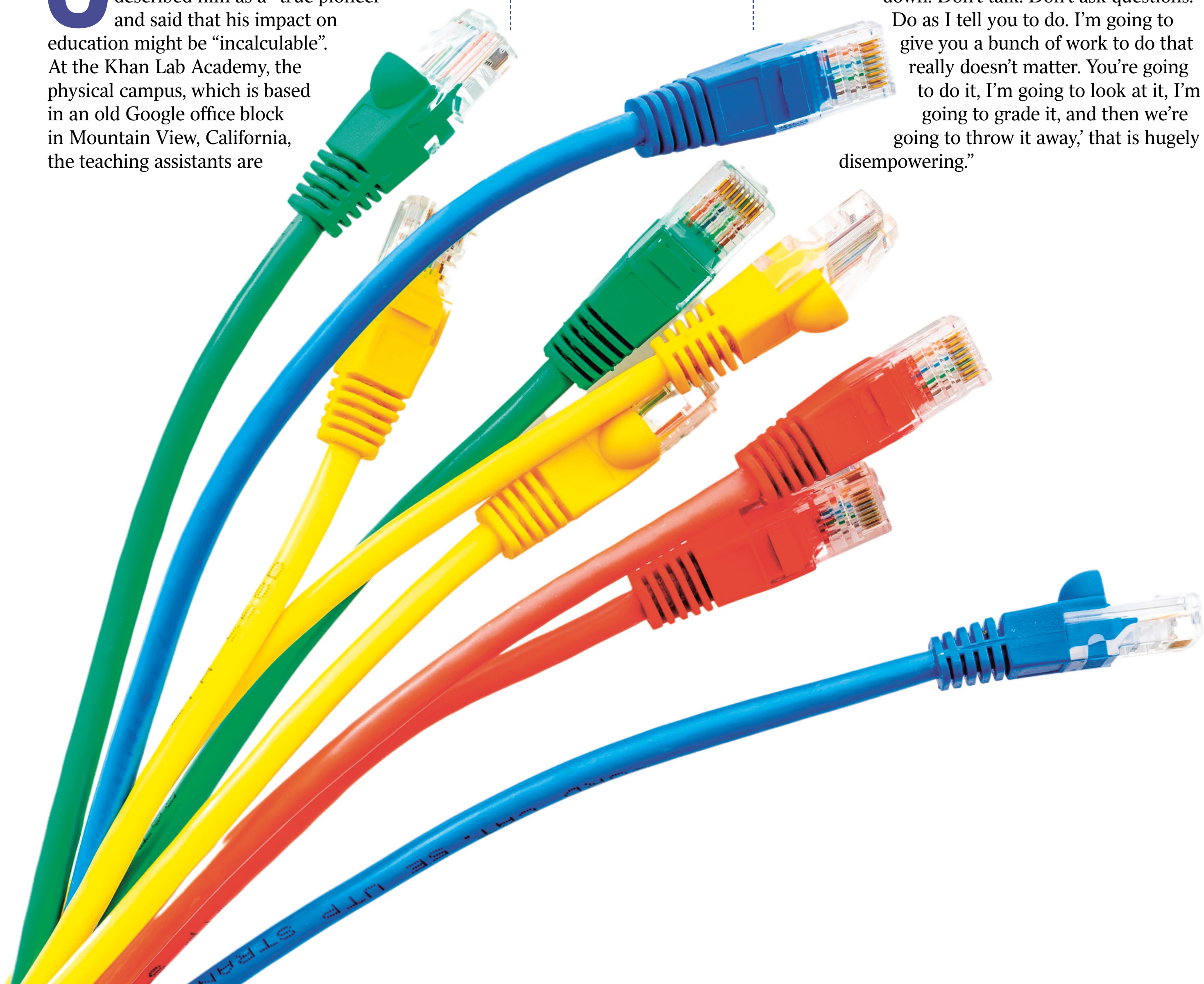
Sal Khan, the founder of the Khan Academy, which has more than 135 million registered users in 190 countries, is a disrupter who has applied the old Facebook slogan "move fast and break things" to education with the support of Bill Gates, Elon Musk and Eric Schmidt. Gates, who used Khan's online maths lessons with his own children, has described him as a "true pioneer" and said that his impact on education might be "incalculable". At the Khan Lab Academy, the physical campus, which is based in an old Google office block in Mountain View, California, the teaching assistants are pupils and the classes are mixed age. There are no grades or homework and pupils move at their own pace, following an individual programme of online Khan Academy lessons. Learning from failure is encouraged, along with creativity, teamwork and entrepreneurialism. Several pupils have already set up their own businesses. It is a small private school where the students are mostly the children of Google executives and dotcom millionaires but Khan is convinced that the model can be expanded. He is now starting a full-time virtual high school, the Khan World School, which will offer personalised online lessons and daily tutorials. "We're going to start with 200 students, but there's no reason why it couldn't be 200,000 students," he told the commission.

Instead of the "bubblegum and glue" version of remote education that sprung up during the pandemic, online learning should in his view be about liberating pupils and teachers. "Learning is not bound by time and space, you're always stimulated," he said. "The traditional system has indoctrinated so many kids to just passively wait to be told what to do." Khan argued that the old model of schooling "simply doesn't fit our changing needs" because "the world requires more and more active processing of information". A new model might also alleviate the mental health crisis in schools, he suggested.

"I think what has been characterised as teenage angst is actually driven by the fact that teenagers are biologically adults but they are treated like children," he told the commission. "I would argue that even seven-year-olds don't want to be treated that way, but if you're 14, 15 years old and you are told, 'Sit down. Don't talk. Don't ask questions. Do as I tell you to do. I'm going to give you a bunch of work to do that really doesn't matter. You're going to do it, I'm going to look at it, I'm going to grade it, and then we're going to throw it away,' that is hugely disempowering."

95%

of US teachers and pupils are provided with a laptop or tablet by their school



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WELLBEING & MENTAL HEALTH

CASE STUDY

It's all going swimmingly: a new wave of schooling

Children are splashing in the sea and surfing to the shore while seagulls circle. It looks like an idyllic summer holiday scene in Cornwall but in fact these 10-year-olds are at school. They are part of an innovative project that uses surfing to re-engage pupils who are struggling with mainstream education.

At the Beach School, run by a charity called The Wave Project, the children wear wetsuits instead of school uniform. Their teacher is a lifeguard, the teaching assistant is a surf instructor and in their natural playground they have rocks to climb on.

These pupils are, however, following a meticulously planned academic course with lessons that draw on the coastal setting. They learn physics by measuring the speed of waves and geography by studying the ebb and flow of tides. They study biology by examining the eco-system of rock pools and maths by followng the coordinates of painted stones hidden on the beach. The art class involves drawing with rakes on the sand to emulate the work of Cornish artists and English might be based around surfing mythology.

The Beach School runs six-week courses for small groups of children aged between 5 and 16 who are referred by their normal school and spend one day a week on the surfing programme.

"The classroom is the beach," said Jason Wood, their teacher, who worked as a deputy head in a state school before joining the Wave Project.

YOUNG MINDS AT RISK

One thing that parents put at the top of the list for their children's education is confidence about their wellbeing. The evidence suggests that they are being let down

"So many people suffer inside and don't let anyone know, it just makes it worse than it is." Sobiya Patel, 15, from Dewsbury in Yorkshire, summed up the mood for one of the commission's youth panel meetings. Every single member of the older groups (aged between 11 and 21) had either struggled with their own mental health or had a close friend with problems. One teenager talked of his depression, another described how her best friend had felt suicidal. Several discussed the difficulty of getting professional help. "I would have appreciated the help of a counsellor but they predicted an eight-month wait for an eight-week maximum treatment," said Ana Nicolae, 20, who is in her second year at Lancaster University.

These are bright, engaged, articulate young people, but many of them had felt an overwhelming sense of anxiety at school. "The pressure of exams is unbelievable," said Hannah Dunwoody, 21, who is now an apprentice engineer. "I would have panic attacks because I knew I didn't have the information stored in my head from a topic that I learnt five months ago."

Kai James, 18 from Exeter added: "I've sat in classrooms sometimes, even with amazing teachers, thinking, 'I'm not in the space to learn this.' … It's shocking how many people I know with severe mental health problems, and it just needs to be sorted."

For Kate Baker, 15, from Gateshead, the problem is the lack of autonomy at school. "I think if you don't have control over your life and your education, it feels like every day being patronised by everything around you."

Akshainie Rajan, 15, from Wembley, insisted that the young were anything but snowflakes. "It could be exams and it could be social media, but we just kind of brush it under the carpet. There's a whole stereotype that our generation has it so easy when really, under the surface, there are so many problems that are looked over."

There are the statistics about the mental health crisis among the young and then there are the human traumas and tragedies. One mother, Lucy Alexander, described to the commission how her son

Felix came to take his own life at the age of 17 having suffered years of bullying that followed him from the playground into his bedroom at night on his phone. "His perspective was never really recognised, all the issues that he had, going through school, were very much labelled as his fault." She insisted that there had to be more support for young people. "I talked to a headmaster of an inner city London school who has huge pressures, financially, and I said, 'How can you afford it?' and he said, 'I can't afford not to have it.'"

The latest NHS figures show that more than 420,000 children are being treated for mental health problems, the highest on record. The number of young people in England with a "probable mental health disorder" rose from one in nine before the pandemic to one in six last year. Half of adult mental health problems emerge before the age of 14 and three quarters before the age of 24, so this is an immediate crisis with long-term consequences. When Rachel de Souza, the children's commissioner for England, conducted the biggest survey of the nation's young people last year, it was their mental health that alarmed her most. "The children I've been meeting in a variety of schools are talking about anxiety," she explained when the commission joined her on a visit to Jane Austen College in Norwich as part of her national tour. "They describe feelings of isolation, some feelings of hopelessness. That's right across the ages and right across the country. It's even more marked than I expected. There's a genuine need we have to address."

The impact on young lives is profound. Between April and October last year, there was a 77 per cent rise in the number of children needing specialist treatment for severe mental health crises such as suicidal thoughts and self-harm. Hospital admissions for people with eating disorders have risen by 84 per cent over the past five years in England, the biggest increases being in those under 18. According to the Coalition for Youth Mental Health in Schools, by the age of 17 nearly a quarter of young women have some kind of emotional mental health disorder. Nearly a third of girls aged 16 to 18 have self-harmed and the rate of hospitalisation as a result of self-harm has doubled among 9 to 12-year-olds over the past six years.

> "There's a huge amount of fear in children about the future

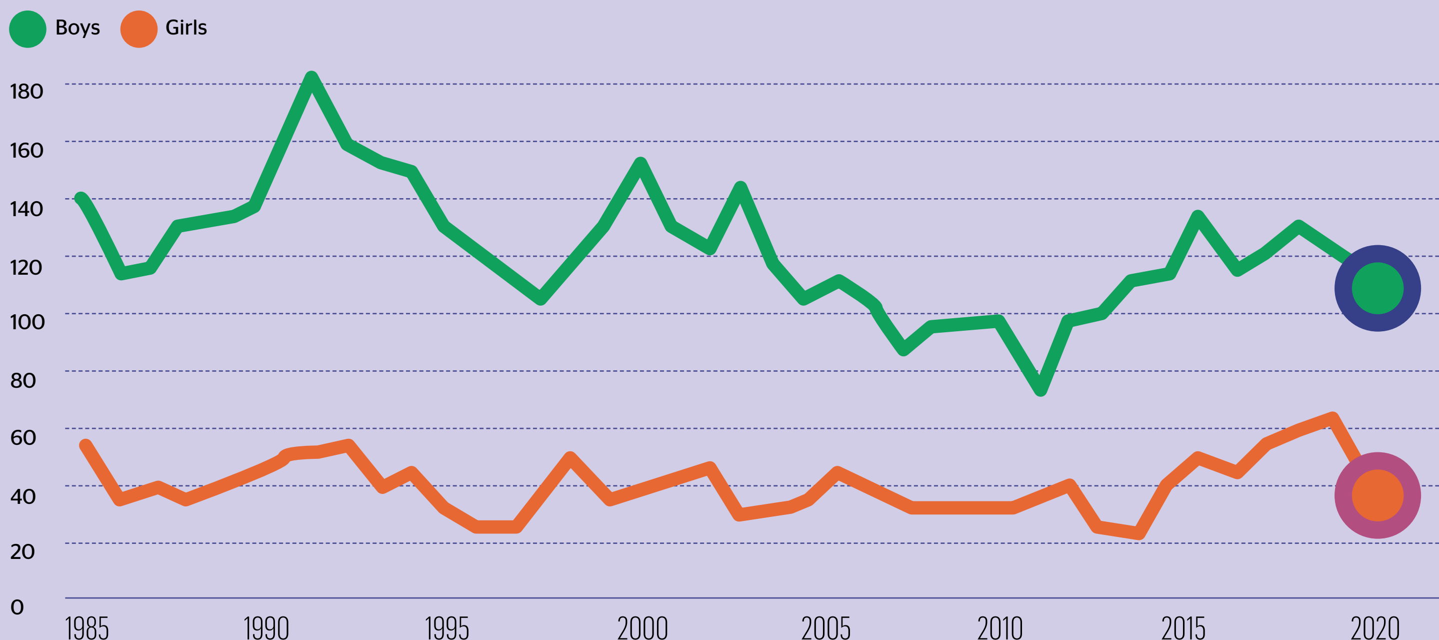
Head teachers report that alongside these acute cases there are many more lower-level problems, with pupils increasingly anxious about issues such as climate change and inequality. Children from the poorest 20 per cent of households are four times more likely to have a mental health disorder than those from the wealthiest 20 per cent. Bernadka Dubicka, a child psychiatrist, told the commission that she and other practitioners had seen "a surge in crisis presentations, including self-harm", over the pandemic. "Since lockdown there have been quite a few young people with psychotic experiences, things like hearing voices that are really distressing." She said this should be an opportunity to "rethink" the education system. "If you don't have a happy child you're not going to have a thriving child who's going to do well academically or otherwise. Wellbeing has to be central to the way we teach our children."

The decline in children's mental health started long before the coronavirus crisis. Tamsin Ford, professor of child and adolescent psychiatry at Cambridge University, described how over the past decade there had been a "deterioration in young people's mental health, particularly an increase in anxiety, depression and self-harm that is disproportionately affecting girls in the mid to late teens and early twenties". The pandemic has simply amplified an existing trend. "The consequences of poor mental health in childhood and adolescence seem more severe in this century than the last, so we have a perfect storm of increasing need and worse outcomes, with services collapsing under the strain of increased demand despite recent investments. We really must do better."

The Children's Society's annual survey of young people has found that children's wellbeing has been falling since 2009. More than 300,000 10 to 15-year-olds in the UK are unhappy with their lives, almost double the number a decade ago. One in seven girls and one in eight boys are dissatisfied with how they

SUICIDES

The number of 15 to 19 year olds who have taken their own lives in England and Wales



Source: Office for National Statistics

CASE STUDY

The school with no rules, no timetable and no classrooms

Outside the Agora school in the Netherlands, teenagers clamber over a car. They jump on the bumper, pop the bonnet, toot the horn and open the boot. Music is blaring as they tear out the seats of the Chrysler Voyager.

The science teacher, Frank Neiss, has set his pupils the challenge of transforming the people carrier into a camper van. They will spend the next six months learning about voltages, velocity and aerodynamics as well as carpentry, plumbing and design. That will be their way of studying maths, chemistry, physics and art. "It will be a great project," Neiss said. "Then, next summer, I will go on holiday in the van with my wife."

Agora, a non-selective state secondary in a suburb of Roermond, has no classrooms, no timetables, no year groups and no curriculum. Pupils decide what they want to study and all the learning is done through individual projects that involve making things, meeting specialists or going on expeditions.

Rob Houben, the manager, who is the closest thing Agora has to a head, said the school was a combination of a university, where all knowledge is within reach, a Buddhist monastery, where pupils can discover what matters in life, a theme park, where students can have fun, and a marketplace, where the young people can exchange ideas. In Ancient Greece, the "agora" was the commercial, social and political centre of the town. "We start with you," the school tells its pupils. "What do you want to learn? What are your talents, interests and ambition?"

In the past five years, projects have included

students building a skateboard, baking cakes, training for a swimming gala and studying the Harry Potter patronuses and the Ancient Egyptian pharaohs. The priority is to engage students and make them curious. "We need to put a lot of knowledge in these kids, but if we attach it to a trigger, then it sticks," Houben said.

12

The number of Agora schools in the Netherlands

The approach has struck a chord with parents in the Netherlands, where happiness is valued as much as academic outcomes. The Roermond campus opened in 2014 with 30 pupils as an experiment within another more conventional school. It has since expanded to 295 students and has a long waiting list. There are now 12 Agoras in all.

The school has passed all its inspections with flying colours. Agora covers all the elements of the Dutch curriculum and in their last two years students are taught by subject specialists to prepare them for national exams. These ensure that educational elements are integral to even the most apparently fun-filled plan.

The school is built around a giant atrium, which has a climbing wall and a kayak hanging from the ceiling. Students work in large common rooms, with sofas, and communal tables.

Instead of being divided into age groups, pupils are put into "coach groups" that span the whole school.

look and the proportion of children unhappy with their school lives has grown in ten years from one in eleven to one in eight now. British children are among the unhappiest in the world. The Organisation for Economic Cooperation and Development (OECD) found that pupils in the UK suffered the steepest fall in life satisfaction between 2015 and 2018, and ranked 34th out of 35 countries for the greatest fear of failure.

Mark Russell, the chief executive of the Children's Society, argued that the country had to reassess its priorities to stop the "toxic trend" of discontent among the young. "Children in this country are anxious they're not going to get the right grades; they're anxious they're not going to be able to get a decent job. They watch the news headlines and see the average house price is eight times the average salary and they wonder where they're going to live. There's a huge amount of fear in children about the future. We had a crisis before the pandemic in children's mental health and it's got worse." The Child and Adolescent Mental Health Service (CAMHS) is so overstretched that he said that some young people who had had a serious problem diagnosed were waiting 300 days, almost an entire year, to get help. Sometimes that is too late.

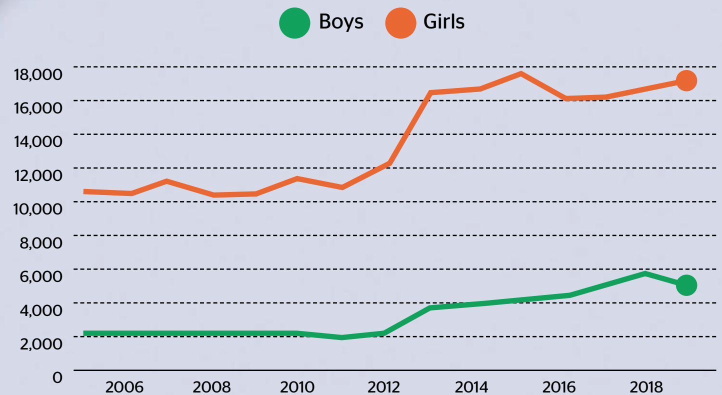
Russell Viner, professor of adolescent health at UCL's Institute of Child Health, described a "youth mental health emergency" and said that a "rising tide" before the pandemic had become a "tidal wave" of problems. "One of the key issues for me is the separation of health and education," he told the commission. "The core business of schools is attainments and that's what Ofsted inspects them on. I strongly believe that you can rebuild schools to naturally promote health as well as attainments. It's not about 'happy clappy, wishy washy, the kids should just hug each other', it is about grit and resilience."

The reasons for the crisis are complex. One factor is the pressure of exams in an education system that prioritises grades above all else. Calls to Childline about exam stress, workload or fear of failure doubled between 2015-16 and 2018-19. There is also a sense of isolation among the young, with 25 per cent of pupils reporting feeling lonely since the pandemic. Many teachers and pupils blame social media. According to the BeeWell survey of young people in Greater Manchester, girls are spending on average 4.9 hours a day on social media and boys are spending 4 hours a day. Excessive time online can affect children's sleep and digital platforms can enable cyberbullying or leave teenagers feeling worried about their appearance.

Sarah-Jayne Blakemore, however, emphasised that social media had also been a lifeline for young people over the past two years. "I think it's really important that we don't buy the oversimplistic line that, 'Oh, it's iPhones, it's social media, that is the reason why we've seen an increase in mental health problems in

SELF-HARM

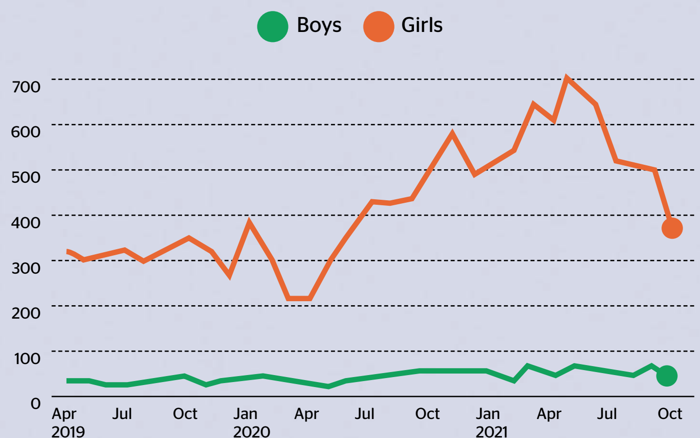
Under-18s in England admitted to hospital for self-harm



Source: NHS Digital

EATING DISORDERS

Under-18s in England admitted with an eating disorder as their main diagnosis



Source: NHS Digital

young people.' It's much more complex than that."

The OECD says that a little internet use can have a "small positive impact" on children and young people's wellbeing, but the two extremes of not being online at all and excessive use can have a "small negative impact".

Some experts offer a more subtle explanation. Young people, they suggest, feel disempowered by the world around them and the education system is doing too little to help them to regain a sense of control. The BeeWell survey found a significant correlation between respondents feeling that they had autonomy and their self-reported positive wellbeing. This chimes with the American psychologist Martin Seligman's theory of "learnt helplessness".

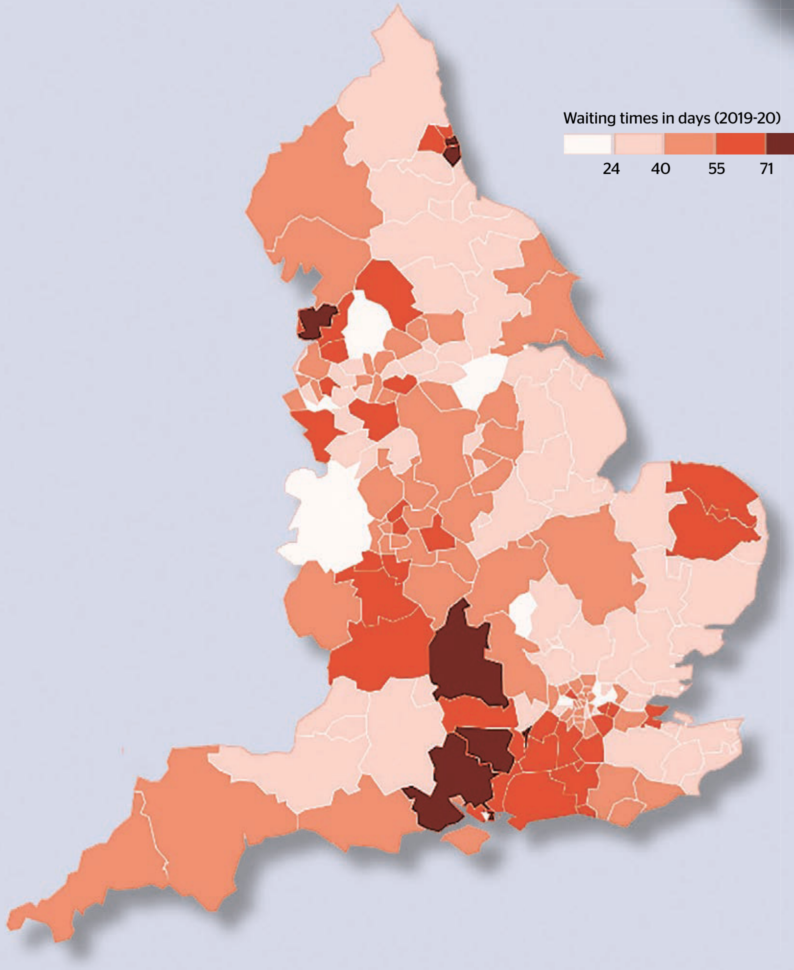
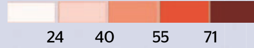
In experiments on dogs in the 1960s one group was taught to avoid an electric shock by pressing a lever; another had no way of controlling the current. The animals were placed in a box that was divided by a low wall with the floor electrified on one side. The ones that had learnt to avoid the shock quickly realised that they could jump over the barrier to get away from the electrified floor but those that had not been trained to stop the pain just lay down and whimpered. Seligman found that humans are also susceptible to learnt helplessness and drew a link between that and depression. He concluded, however, that they could also be taught optimism and be empowered "not through mindless devices like whistling a happy tune or mouthing platitudes … but by learning a new set of cognitive skills", which he called positive psychology.

Peter Fonagy, the chief executive of the Anna Freud Centre, told the commission that a crucial factor for mental health in schools was "the extent to which children and young people feel recognised, listened to and understood as individuals". He pointed out that the rise in problems had been greater among girls than boys. "The interesting thing is that when you look at it internationally the more gender-equal a country is the larger this gender gap is. So it's something that we do with young women that actually makes it very difficult for them. Whether it's to do with setting the barriers in front of them at the same time as declaring that they're fully equal, or there's a difference between what they feel they should achieve and what they're capable of achieving. Or whether it's to do with sexual harassment, being a sexual object at the same time as we're telling them, 'No, you are equal.'" Young people need to have a sense of agency over their lives.

The government has promised to ensure that there is a mental health lead in every school and college by 2025. That is too little, too late. There should be a counsellor, either physical or virtual, in every school now to help pupils before they reach crisis point. The Coalition for Youth Mental Health in School estimates

WAITING TIMES

Days between referral and second contact with children and young people's mental health services

Source: The Children's Commissioner for England

> "The more gender-equal a country is the larger the gender gap [in mental health]

that this would cost about £140 million a year but the price tag could be reduced if some of the counselling were delivered online. In Wales, the SilverCloud project, a digital counselling service, is being made available for anyone in need from the age of 11 at a cost of £7.7 million over three years. Most members of the commission's youth panel thought that online provision would be a good alternative to in-person counselling, and certainly better than nothing.

Catherine Roche, the chief executive of Place2Be, a children's mental health charity that works in schools, said: "Getting in early means we start helping before problems become entrenched." An audit of the one-to-one counselling offered by Place2Be concluded that every £1 spent leads to £6.20 saving.

Teachers, who are often the first to see an emerging mental health problem, also need more support. There should be annual mental health training for all teachers, just as there is on safeguarding. A survey by the Coalition for Youth Mental Health in Schools found that 76 per cent of teachers did not receive any lessons on how to support their students' mental health during their initial teacher training, and 87 per cent thought that mental health training should be refreshed every year.

These are all necessary measures to deal with the immediate crisis and save lives but the real aim should be to stop children reaching the crisis point that makes them need professional help. There must be a shift towards prevention rather than cure, with more emphasis placed on developing the emotional resilience of young people so that they can cope with life.

Jane Lunnon, the head teacher of Alleyns School and chairwoman of the Coalition for Youth Mental Health in Schools, draws a parallel with the NHS. "Obviously when there is a problem, when the wheels have fallen off one way or another, you need to fix it. But we need to be more focused on the preventative role that education can play. There's a lot of evidence around the things that help people live flourishing lives." Having worked as a teacher for many years, she is convinced that collective activities such as sports clubs, drama societies, volunteering and outdoor activity trips are crucial for the mental health of teenagers. "The tendency for adolescents is to look inward, so you really need lots of things to push you out of yourself. One of the key strands of positive psychology is being able to find constructive use for yourself in the community. The collapse of funding in sports and arts provision, these things were not just little nice-to-have extras. Kids need those things to help them feel 'I'm part of something else. It's not just about how I'm doing in maths, it is also I can score that goal really well, or we're going to climb this mountain together, or I'm playing my third fiddle in the back row.' The loss of that in education really matters. We need to bring it back."

There is a growing body of scientific evidence to support the importance of social interaction in boosting mental health. Sarah-Jayne Blakemore explained: "Rather than thinking about, 'How do we improve this nebulous concept — resilience — in children in schools?' … pick it apart, disentangle what we mean by that and focus on things like social relationships. Children are in school for so many hours a week. Do they have really good lessons and structure and support in terms of their social relationships? Not really, because all their time is squeezed out by academic lessons and the need to learn as much information as possible. But actually,

> "It's much better for society to build stronger children than to repair broken men

just focusing on that might make a real difference to what we're calling 'mental health resilience'."

Angela Duckworth, professor of psychology at the University of Pennsylvania and author of the best-selling book *Grit*, told the commission that passion and perseverance, the qualities that are in her view the key drivers of success in life, are just as likely to be learnt on the football pitch as in the classroom. "If anybody wanted a policy argument for sports, music, drama, journalism, there is hard data showing that extracurricular involvement predicts longer-term outcomes, including college persistence," she said. "There are critics who say that it's the role of the family to teach honesty, empathy and grit but school is where young people spend most of their waking hours, and they're enormously influenced by their peers. From an equity perspective, schools have always been a way of levelling the playing ground."

Sir Anthony Seldon, who has battled for 15 years to try to convince government to take student mental health seriously at schools and universities, insisted: "Building students' capacity to cope with difficulties and thrive can and must be put in place. The evidence is clear: it improves performance and behaviour and saves money."

The American philosopher Frederick Douglass said: "It's much better for society to build stronger children than to repair broken men." The aim of schools, colleges and universities must be to give young people the emotional as well as the intellectual tools to cope with life. In Finland, schools explicitly set out to inculcate *sisu*, the Finnish word for grit or resilience, in their pupils. Children are sent outside between lessons, whatever the weather, and expected to walk home on their own from an early age.

Giving evidence to the commission, the explorer Bear Grylls argued that schools should be doing much more to build resilience rather than judging pupils in terms of exam success. "I do think education is too narrow," he said. "Teachers are such heroes but I think generally the education system is wildly outdated and that's one of the many reasons why we're seeing such a surge in young people's mental health struggles. One of the most disempowering things for young people is feeling ill-equipped for life. Failure is No 1."

Grylls, the founder of the learning and development company BecomingX, said that schools needed to find ways of rewarding and encouraging a "never-give-up" spirit in children. "The currency of life is all about resilience," he said. "What are we actually trying to equip kids for? Are we trying to equip them for financial success or fame? All these things that we know don't answer the questions of life. Ultimately, we want our children and young people to be empowered to have happy relationships and calm hearts and ambitious spirits and good friendships. This is the sort of language we don't hear enough of, but the truth is, it's everything. It's so much bigger than academics."

Since the pandemic, there has been a shift in the public mood about the priorities for education. The YouGov poll for the commission found that pupil wellbeing was the most important thing for parents when choosing a secondary school: 45 per cent put this top, compared with 28 per cent who chose exam results and 36 per cent behaviour and discipline. Parents are increasingly worried about their children's mental health, 58 per cent saying that the pandemic had had a negative impact on it.

In the Netherlands, which has some of the happiest children in the world, wellbeing is as important as academic outcomes and schools are required to measure their students' wellbeing on a regular basis. The BeeWell survey in Greater Manchester has had

fascinating results and has already started informing policy and local community action. The government should undertake a wellbeing survey nationally, through secondary schools, to give a consistent measurement of young people's wellbeing across the country. This would focus attention on the importance of mental health, encourage schools to prioritise pupils' wellbeing, allow Ofsted to assess progress and build an understanding of how to create contented children. Based on the initial costs of BeeWell's survey, it would cost about £30 million nationally per survey year and 87 per cent of parents told YouGov that they would support such a measurement.

The system needs to be rebalanced. By the time people get to university, the problems have often spiralled. Sir Simon Wesseley, regius professor of psychiatry at King's College London, said there were such "eye-boggling numbers" of students seeking help that the solution had to be collective. "The numbers that we have now are so great that … you're not going to be able to counsel your way out of this problem. The last Cambridge college I visited, 50 per cent of students were in counselling. That's an extraordinary figure. For every penny that we spend on therapy — which we do, and it works for individuals — we should be spending on everything that increases our social connectivity. It could be anything: sport, arts, music, volunteering, all of these things. And most models of wellbeing do show that engagement with meaningful activity, which includes learning, have a much more positive effect on wellbeing than therapy." He warned against creating a "self-fulfilling" crisis by medicalising emotions. "Quite often the words 'mental health problem' they were using to refer to things like loneliness, homesickness and I'm still slightly old-fashioned in the sense that I don't like it when students say, 'I'm sorry, I missed your talk. I was a bit bipolar today.'"

The top students are often the most vulnerable, Dame Nancy Rothwell explained. "We are on alert for mental health problems in some of the highest achievers and part of the problem is, they've never failed at anything. They have gone through school, top of the class, and suddenly they come to university and they're struggling because they're not top of the class any more."

It is a question of priorities. Lord O'Donnell, the former cabinet secretary, argued that the government's objective should be boosting the nation's happiness rather than its wealth. "That would mean an education system that placed less emphasis on exam results alone. We'd still have those, but it would take a lot more trouble thinking about how to measure and improve the wellbeing of children. Mental health support is crucial but the education system is for everybody and that means thinking about how you build resilience, how you ensure that children are prepared for a world where there will be shocks. The good news is there's evidence that as you improve wellbeing, people's exam performance goes up as well, so it's not like you have to do trade-offs."

According to the economist Lord Layard, a simple test of emotional health at 16 is a better predictor of whether somebody will be satisfied with their life than all their academic achievements. "So I think we have to be rather radical in rethinking what the goal of education is. If it's to prepare somebody for a satisfying life it has to give almost equal weight to wellbeing and to academic learning." Schools, he insisted, can make a "huge difference" to happiness. The Healthy Minds curriculum, which he helped devise, involves a lesson of an hour a week for the first four years of secondary education. Pupils learn to manage their emotions, deal with social media and understand the neuroscience that may be driving their reactions. "The first thing is simply to be aware of your own feelings and how you respond to setbacks, to get the basic skill of looking at yourself from the outside and develop habits of getting into a positive frame of mind," Lord Layard said. The results have been positive. Students completed detailed wellbeing questionnaires at the start and end of the course and on the main measure they improved by 10 percentage points. On life satisfaction and behaviour, they went up 7 points. There have been big controlled trials in Bhutan, Mexico and Peru of a 15-month wellbeing curriculum in secondary schools lasting two hours per week. Pupils in Bhutan's wellbeing and academic performance improved by 20 percentage points and in Peru it was 8 points better.

17,429

Under-18 girls in England admitted to hospital for self-harm in 2018

Schools are already required to teach personal, social, health and economic education, including relationships and sex education, but the classes are often treated as a joke and taught by a teacher who is not a specialist. A 2013 Ofsted review found that PSHE was inadequate in 40 per cent of English schools and other more recent surveys suggest that little has improved in the delivery of a subject that should be used as a first line of defence against mental ill health. This slot in the timetable could be much better used, with proper training for teachers and a more relevant curriculum.

As Suzi Godson, the *Times* sex and relationships columnist and founder of MeeToo, a mental health app, said: "Teachers go into teaching to teach about subjects that they know about and are trained to teach. They're not trained to be mental health first aiders, nor are they trained to be delivering sex education. It's an incredibly difficult topic for adults to speak about with each other, let alone to teach a class of thirty kids who find it awkward and embarrassing. Part of the problem is naivety and ignorance and lack of understanding, and confusion, and that is a direct result of the way they're not being taught about these things. The problem with the current system is it's all built around crisis care. Somebody has to get sick or sexually assaulted before they can access any support so we wait for kids to fall off a cliff. We should be teaching young people how to look after their mental health, how to look after themselves so that they are safe, so that they know what their own boundaries are around sex and relationships. And that has to happen much, much earlier."

The Everyone's Invited campaign, which exposed a culture of sexual abuse in schools and universities, horrified parents and triggered an Ofsted inquiry. More than 50,000 people have now registered their stories but Soma Sara, the 23-year-old founder, said her purpose was not to seek revenge but to change the culture in schools. "Young people are learning about how they should conduct sex and relationships through watching porn," she said. "So their minds are basically being kind of formed in watching this really extreme, violent visual of what sex should be. And what's really crucial for young people to understand is that this is entirely performance. It's not real sex. I think there is this fantasy that old people have about the innocence of children, but that is not reflective of our reality and the lives that we're living in the culture that we're living in. Children are being exposed to these ideas and this content and this imagery, so the education needs to come. It needs to be a proactive response, not just a reactive one."

1 2 3 4 5 6 7 8 9 10

SCHOOLS IN THE COMMUNITY

CASE STUDY

Outdoor school is a breath of fresh air for its pupils

Under the canvas of a yurt, children are learning about biodiversity. A boy whizzes around the garden on a scooter.

This is Liberty Woodland School, Britain's first fully outdoor school. The private primary in southwest London teaches all its lessons in the tree-lined grounds of Morden Lodge, a Georgian National Trust property. A maths lesson has been going on in the greenhouse; lunch is served at long wooden tables outside and children have planted circles of bulbs so that their class can sit cross-legged surrounded by flowers. The pupils are now choosing which animals to get for the animal shed.

Rain or cold are no obstacle to learning because the school has brought outerwear from Scandinavia. "Those cold days are a great way to build resilience," Leanna Barrett, the headteacher, said. "The freedom they get from being outside means it doesn't matter what the weather is."

The school "tracks" the national curriculum, so children cover most of the topics they would learn in a traditional school but there is an emphasis on "emotional intelligence and self awareness" as well as academic outcomes. "The country is in a mental health epidemic, you can't bury your head in the sand ... I think the connection with positive mental health and spending time in nature is irrefutable."

There are seven outdoor nurseries linked to the school and a secondary is opening in September.

BREAKING DOWN BARRIERS

No school is an island: whether it be a rural state primary or a world-famous alma mater of prime ministers, its influence will stretch far beyond the school gates

When the Oasis Academy South Bank was set up nine years ago, one in six of the children leaving the local primary school ended up in the criminal justice system. They went to twenty different schools around south London and many got sucked into gangs. Now a third of those graduating from the Oasis sixth form go on to good universities and last year a tenth had offers from Oxford or Cambridge. It is an astonishing turn around in the fortunes of a cohort drawn from one of the toughest council estates in the country, which has high levels of poverty and knife crime.

The secret of the school's success, said Steve Chalke, the chief executive of the Oasis Charitable Trust, is "caring for the whole child" and understanding the context in which they are growing up. Almost half the pupils are on free school meals, a measure of deprivation. One student saw a dead body fall from the balcony above and land outside their ground floor flat. There is a food bank attached to the school as well as an advice centre for families to help with housing, benefits, debt, parenting and immigration problems. Teachers can choose to contribute a percentage of their salary to a hardship fund that is used to buy furniture or equipment for families. One pupil was sharing a bed with three siblings so the school used the fund to buy the family an extra bed.

Eight youth workers are employed to work with pupils who are at risk of exclusion or getting dragged into gangs. If students play truant they are visited at home and the school has members of staff seconded to the A&E department at St Thomas' Hospital to help children who come in with stab wounds to turn around their lives. There is even a therapeutic farm, where pupils who are struggling in class can spend a couple of hours a week talking to an adult while feeding the goats. The community action is funded by charitable donations, as well as fundraising ventures including a café attached to the school. Chalke, a Baptist minister, told the commission: "The school is the bridge to the community, it's the doorway, it's *The Lion, the Witch and the Wardrobe.*

He hopes that the pandemic will be a tipping point in the wider role schools play. "We all say 'Don't waste a good crisis,'" he said. "Let's not re-emerge from this just as a vaccinated version of what we had when all this started. Before the pandemic, there was this view that education was mostly about maths, English, geography, history and modern foreign languages. Everyone has moved away from that view now. Yes, schools should do all of that knowledge-based stuff, but it's also about social and emotional development and if families don't flourish, kids can't flourish."

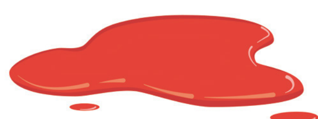
In the Victorian era schools were hidden behind high fences and walls, segregated from their community. That is no longer the case. Schools are no longer just self-contained centres of academic learning; they are also social hubs. They should be building links with businesses and other public services as well as providing a resource for the families that live around them. Already some schools offer welfare, housing and immigration advice. Others are looking at how to introduce mobile dental surgeries or medical centres. Several witnesses suggested to the commission that the government's new family hubs, which will offer parenting support, should be embedded in schools, rather than set up as separate entities.

As the social policy expert Baroness Casey of Blackstock put it: "Schools should be celebrated buildings in our communities. Parents have to go there to drop their kids off: even the most troubled families quite often get their kids to school some of the time. So there's a natural point there to open up a discussion. I was often frustrated with colleagues in the Department for Education [DfE] because they didn't seem to appreciate the interconnectedness between these children at home and in their schools."

Schools cannot operate as islands because addressing the social challenges children face at home has the potential to transform educational outcomes. The charity Magic Breakfast, which works with more than a thousand school settings to offer free breakfasts to more than 200,000 children a day, showed that having breakfast can boost attainment for primary school pupils by two months over the course of a year. Pupils' concentration and behaviour improved and schools with breakfast provision reported fewer absences. At higher levels, a study by Leeds University found that students who regularly ate breakfast achieved nearly two GCSE grades higher.

Yet, a fifth of schools in the UK have no breakfast provision. In England present funding reaches only a quarter of children in the most deprived schools and 2.7 million disadvantaged children (74 per cent) could be missing out on breakfast. In Scotland it is 250,000 (88 per cent) and in Northern Ireland 50,000 (51 per cent). In Wales, breakfast provision is not reaching 85 per cent of disadvantaged pupils.

Surrey Square primary school in Southwark not only runs a breakfast club; it also sends evening meals home to some families. There is a washing machine and tumble dryer for parents who have nowhere to do laundry. Nicola Noble, the head teacher, regularly gives her own children's clothes to pupils and during the lockdown she helped one mother to move house. It is about humanity, she said. "In the pandemic we started off sending something like a hundred food packages a week, and that increased to about two



hundred, and what we're seeing now is that more and more families are accessing food banks. We've come to realise that there are two aspects of our work. What I would call a sticking plaster, which is meeting basic needs, if children don't have food, or they don't have bedding, we need to provide them because if they don't have those things they're never going to be able to access the education that we would want them to. But more recently we've started our causes and campaigns work, trying to remove the issues for good." The school started negotiating with the council to get better homes for its pupils and advising families on immigration applications. Now it has built community activism into its curriculum. The 7-year-olds recently ran a campaign on pests in social housing. They wrote to the council explaining that they knew from personal experience that there was a problem with mice, rats and cockroaches and summoned one of the local developers to a meeting at the school. Two families were moved into new housing as a result of the pupils' campaign. "We can't just keep putting the sticking plaster on," Noble said. "We want children to be able to look back in future and think, 'That was the way I made change happen.'"

Teachers are increasingly filling in the gaps left by other bits of the state. The former teacher Mehreen Baig told the commission: "You're a nurse, you're a counsellor, you're a social worker … When you sign up to teach maths or to teach English, you don't think that you're going to be risking your own life and patrolling the high road as a security guard or a police officer. That's not part of the job description. And it's not very fair but you do it: you do it because you want to protect the children; you do it because you love them and you want them to be safe."

As other services are pared back, schools are also realising that their facilities are a valuable resource. In Barrow-in-Furness, Cumbria, the local football club works out of Furness Academy. The school has a running track and an all-weather sports pitch that are open to the public at weekends and evenings. "We want to be a hub for the community," the head teacher Simon Laheney explained. "Sport's really important and obesity levels are high in this area. The community has to use these facilities, otherwise what's the point of having them? Music provision is something that if we invest in early then we're going to get people who will want to consume it in the town when they're older. We want to tie those things together. It's all part of this levelling-up agenda, which is about not only raising standards but also raising the cultural capital of the youngsters that come through here."

The trust employs a social worker as well as educational psychologists and mental health professionals. Caroline Walker, the head of the local primary school, described one of her pupils who is in year 6: "She's got no bed, no carpets in her house; she doesn't eat unless we take food round to her. Her dad's got two broken arms from fighting and being drunk. She only goes to school because we pick her up. But she aspired to be a gymnast: she's just won the county finals, and now she's in the national finals. She's really bright, really talented but if we just left her, she couldn't function so we have to get involved."

The best schools are already breaking down the barriers between education and other public services for the sake of their pupils. The Ark Academy chain is looking to include an introduction to children's social care in its initial teacher training to give staff a better understanding of some of their pupil's lives. The West London Zone, based in the shadow of Grenfell Tower in Notting Hill, uses data to identify children at risk of exclusion and works in schools to try to keep them on track. Three quarters of the young people at risk showed improvements in their mental health and 11 per cent had better outcomes in maths and 7 per cent in English over the two-year programme. Louisa Mitchell, the chief executive, said the key was to drive collaboration across the public services and tap into local community resources. "This is the most unequal community in England. All over this zone you have children who are at risk of going into adulthood not being able to make a positive social or economic contribution. It's not going to solve itself on its own with academics."

The community has to use the facilities, otherwise what's the point in having them

In the West Midlands, the police are working with schools to tackle knife crime through the Birmingham Pathfinder programme, which offers intense pastoral support to 300 families. There has been a 40 per cent drop in exclusions and a 17 per cent reduction in referrals to social care since the scheme was introduced. Thomas McNeill, the Assistant Police and Crime Commissioner, said the programme cost about £1 million a year but the savings were already coming through. "The costs of failure are absolutely astronomical. The costs of crime, both from a policing resource, the costs to victims, the courts, jury service, prisons, probation, everything is so huge, we know a lot of it is avoidable. We really think the cost-benefit analysis case stands up to scrutiny."

The commission heard evidence about the importance of encouraging pupils' engagement with their local communities through volunteering, field trips and high-quality interactions with employers. This has potential for developing skills beyond the academic, such as resilience and teamwork, and studies have shown that building networks can also boost social mobility. The Harvard professor of economics Raj Chetty used tax data to track the social mobility of all Americans. He identified five factors that were most important for creating a high level of social mobility. Two of the five were about community cohesion: the first was the strength of associations and clubs in the area; the second was the avoidance of racial and income segregation. These two attributes were more important than the level of local investment, the amount of redistribution, the size of the manufacturing industry, the employment rate, the number of skilled jobs available locally and even the amount of money spent on schools. Jon Yates, executive director of the Youth Endowment Fund and a former adviser at the DfE, said: "On social mobility, the truth is — and we know this so well we even have a phrase for it — 'It's not just what you know it's who you know that matters.' A child that grows up in the UK and doesn't interact with an adult who works in business becomes five times more likely to be unemployed … Connections really matter, for aspirations but also for opportunities."

The commission proposes that a universal National Citizen Service (NCS) programme should be established for all pupils at 14 to foster community cohesion. It would involve a two-week residential course, an outdoor pursuit5s adventure, a *Dragon's Den*-style team project and volunteering. All schools — private and state, grammar and faith — would be involved to encourage social mixing. The scheme would build on the success of the existing NCS summer programme but would be for all pupils and delivered throughout the year and at an earlier age. Yates said it would be a "coming-of-age programme for teenagers" and an intense bonding experience

CASE STUDY

Eton: 800 years old but with its eyes set firmly on the future

Eton College, according to Simon Henderson, the head teacher, is the opposite of a snake. "A snake sheds its skin and stays the same on the inside; Eton stays the same on the outside — we have our quirky uniform, funny language and historic buildings — but we're constantly re-inventing ourselves on the inside."

Boys dressed in tail coats and stiff wing-collared shirts scuttle along cobbled streets to lessons at the £45,000-a-year boarding school that has produced 20 prime ministers. Etonians still call their teachers "beaks" and play the wall game. But tucked under the arm of each immaculately-dressed pupil is an iPad. Eton boasts on its website that it has been "educating for the future since 1440" and technology is integral to the teaching at the school. During the pandemic, Eton started offering online courses to students across Britain through its EtonX platform. Last year the school also signed a partnership agreement with Star Academies to open three selective state sixth forms in deprived areas.

Eton is highly competitive and pupils are ranked on the basis of their performance in each subject, although the announcement of the GTF (the "General Total Failure" who had come bottom of the overall list), has been abolished since Boris Johnson was there. Henderson insists, however, that exams are not the main priority of an Eton education.

Children are encouraged to follow their passions in and out of the classroom. One parent says Eton is "more like a university than a school". The teaching style is discursive and there are more than seventy pupil-led societies on everything from football to philosophy and board games to bird-watching.

There are 53 instrument ensembles, a resident artist and a rowing lake. Eton has an entire block devoted to art, design and technology, as well as a debating chamber, a theatre, and a Natural History Museum with 16,000 biological specimens.

"We take the view that the boys learn as much, if not more, outside the academic arena, and they learn as much, if not more, from each other as they do from the adults," Henderson said.

Independence and leadership are encouraged from an early age and "public service" is integral to the ethos of the school, according to the head.

for people from different backgrounds that would strengthen democracy and build connections. "In moments of transition we tend to be more open to the idea of connecting with people who are slightly different, because our own identity is slightly in flux." The government's evaluation of the summer NCS programme found that it had a "statistically significant positive impact across many of the social cohesion measures" and participation increased levels of social trust and widened social circles. The scheme also boosted wellbeing, team work and self confidence and the findings showed a "positive picture regarding social mobility." A universal programme would cost about £500 million a year.

There are benefits to young people's mental and physical health from spending time in the natural world. Forest schooling, which involves children spending time in the open air, climbing trees or building fires, is increasingly popular in the UK, with many schools now offering it as a regular part of teaching. Schools should be leading the way in reconnecting children with the environment as well as understanding the impact of climate change. Sir Michael Morpurgo's Farms For City Children has been

running for 40 years and allows inner-city children to spend a week in the countryside. "We have this huge facility out there of the countryside and it's not used," Morpurgo said. "It's the enriching of lives that seems to me to be so important from an early age. And if you can add the mixing of children from very different backgrounds, not just from within a school, that would be even better."

The *Times* commissioner Lord Rees of Ludlow, the Astronomer Royal, said it was sad that children in cities "never see a bird's nest or a dark sky. Schools ought to try and help with this." They should aim

£500m

Estimated cost of a universal citizenship scheme

"to make people feel more at home in the world, to understand nature and to understand how things work".

Schools must also have more to do with the businesses in their community. In Estonia, entrepreneurialism is a core strand of the curriculum but in this country the education system does little to foster that innovative spirit. Lord Bilimoria lamented the "lack of interaction" between education and business. He would like to see "at least one field visit a year, at least one speaker coming into schools from business and that's going to help them when they get

jobs later on." Some parts of the country are already building the connections to the benefit of pupils and companies. In Barrow-in-Furness, BAE Systems, the biggest local employer, runs educational programmes in schools designed to drum up an interest in science and technology to create the well-qualified workers it needs for its nuclear submarine plant.

The company has produced "engineering fairy tales" for local primaries in which Rapunzel has to get out of the tower, but instead of lowering her hair for the handsome prince she builds her own winch. There are after-school clubs and holiday camps, with activities such as "bug bingo", where children have to find a worm, a beetle and an ant, or build a chair out of newspaper. The company gives its engineers time off to go into schools. Between them these "ambassadors" delivered 4,000 hours of educational activity in 2019. Neil Doherty, the company's corporate social responsibility manager, said that it was more about enlightened self-interest than philanthropy for a company that is heavily reliant on recruiting in one of the most disadvantaged parts of the country. "Educational attainment is lower than the national average at GCSE level … and we know that the future workforce is going to need to be better qualified."

David Harkin, the founder of 8billionideas, works as an "entrepreneur in residence" in schools, running projects with children from four to eighteen. "If we want to create world-class products and businesses and services in the next twenty years then we've got to start young," he told the commission. "A lot of people think you need to start talking to a child about entrepreneurship when they're fifteen or sixteen but you've got to start talking to them when they're two, three, four or five to get them excited about their ideas. If you ask a five-year-old, 'How do you make a fridge better?' you get some amazingly cool stuff." He said technology had transformed the opportunities for improving links between education and employment. "It doesn't matter where you are if there's a webcam in the classroom: weshould be able to get any type of role model zoomed in."

Clementine Stewart, who appointed Harkin as director of entrepreneurship at Chatsworth Schools, said pupils had learnt how to do project management, financial management, make prototypes and pitch their products. "You see children that don't shine in any other part of school life coming to the fore because they've got the gift of the gab, or they can just command the attention of the room," she said. "They might be the class clown normally and in that situation they charm their way through their pitch and you sit thinking, 'My God, you could've been written off for the last five years, and yet this is your time.'"

Many businesses told the commission that they would love to do more in state schools but did not know how. Careers hubs, which bring together schools and colleges with local businesses and apprenticeship providers, show a way forward and should be implemented across the country. There must also be a careers leader, who would be responsible for liaising with industry, in every school and college. Some could come from industry, rather than through teaching. The South Durham UTC employs a full-time business engagement manager and local companies said that it helped to know who they should call to offer work experience or apprenticeship opportunities.

High-quality careers guidance should be an integral part of education, including in primary school. This is vital to ensure that young people understand the jobs and opportunities that are available to them, especially for those from lower socio-economic backgrounds who are less likely to have networks that provide insight into a range of career options. A study by the Sutton Trust found that only 30 per cent of students in year 13 had completed work experience and 37 per cent of school leaders report not having enough funding for careers guidance. Schools in more deprived areas are also less likely to have access to a specialist careers adviser, 21 per cent of teachers in the poorest parts of the country reporting that non-specialists were responsible for guidance, compared with 14 per cent in more affluent areas.

All secondary pupils should have the chance of work experience and teachers should be given the chance to spend time in the business world to build links. The "Apprentice for a Day" scheme in Dorset offers one-day placements for teachers so that they can properly understand how to explain apprenticeships to their students.

Oli de Botton, chief executive of the Careers and Enterprise Company, said it was essential for young people to be better prepared for work. When he was the head teacher at School 21 in London, pupils took eight instead of nine GCSEs and in the timetable slots for the ninth the young people had placements in industry. "We tried to make it as real and rigorous as possible. The young people could be fired, they presented their work at the end. And what we've found is that that gave young people both confidence about their employability, but the employers as well were able to be a sort of exam board, if you like, for the skills that we were trying to teach in school. We said to the employers, 'Well, how was the young person when they were with you for 18 weeks?'"

£905,600

Estimated cost of sending two children to private school

Technology has the potential to play a role in fostering better links as the youth social mobility charity Speakers for Schools has shown with its app, which matches pupils with work experience placements. The broadcaster Robert Peston, who founded the charity, explained why it had moved from its original purpose of sending high-profile speakers into state schools on to creating work experience opportunities. "One of the things that used to drive me mad when I was running different bits of the media industry was that friends would ring up and force their kids on me to come and do work experience because it would look good on their kid's CV. They would turn up, the kids didn't want to be there, they were grumpy, but one was giving them a bit of unfair help. And what we wanted to do was engage with really top-class employers and make sure that those sorts of opportunities went to those kids whose families didn't have those sorts of connections."

Julia Cleverdon, former chief executive of Business in the Community and vice-patron of Teach First, highlighted that it could not be left up to individual schools to implement these kinds of opportunities. "If it isn't orchestrated, all that happens is that the most advantaged kids in the most advantaged schools get the best jobs and the best work experience. So this has got to be done on an absolutely national basis with the high-quality standards that we need."

In an age of division the education system should be encouraging community cohesion and that also applies to private schools. An Institute for Fiscal Studies (IFS) report last year found that the gap between private school fees and state school spending per pupil had more than doubled in England over the past decade, with private fees now more than 90 per cent higher than spending on state schools. Luke

Sibieta, an IFS research fellow, said that although day-to-day state school spending per student had fallen by 9 per cent in real terms over the past decade, private school fees had gone up by 20 per cent. Some boarding schools are charging more than £50,000 a year, almost ten times the per-pupil rate in the state sector. The investment management firm Killik calculated that it would cost £905,600 to send two children to private school, initially at a day school followed by five years of at a boarding school from the age of 13, meaning that all but the super-rich are being priced out of an independent education. Alan Smithers, professor of education at Buckingham University, described the price rises as "mind-boggling" and said that they put the schools out of the reach of most middle-class families, who are already struggling with the cost-of-living crisis. "To maintain the very high support they have enjoyed in this country, these schools, which enjoy charitable status and the tax relief that brings, do need to think about the service they are providing in Britain and not just the focus on the money overseas students can bring in," he warned.

An indication of the way in which the mood is shifting came from Stephen Toope, vice-chancellor of Cambridge University, who told the commission that private schools in this country were "quite a unique problem". Toope, a Canadian, said: "It doesn't really exist in any other English-speaking country, and certainly not in continental Europe. Obviously, there's a long tradition here and I would never come in from the outside and say, 'The system is fundamentally wrong and has to be completely overthrown.' I think that's just not very realistic. What I would say is that we have to keep making it very, very clear that we are intending to reduce, over time, the number of people who are coming from independent school backgrounds into places like Oxford or Cambridge. But we're doing it by welcoming others, not by telling those people, 'We don't want you.' That's never the case. Individual students who are talented, we want them but they're going to be competing against an ever-larger pool, because there are more and more students coming from state schools who are seeing a potential place for themselves at Cambridge or Oxford or other Russell Group universities. And that's what I think we have to encourage … what we are seeing happen already is people understanding that the premium to go to some schools may not be as significant as it once was."

The commission recognises that many independent schools offer an excellent education. When only 7 per cent of children go to private schools the priority must be to improve the state schools that educate most young people in this country rather than bashing the independent sector for the sake of class war. The private schools themselves need to understand, however, that they will quickly lose public support altogether if they do not do more to prove that they are of benefit to wider society. Our YouGov poll found that 64 per cent of people support ending the charitable status of private schools, meaning that they would have to pay more tax.

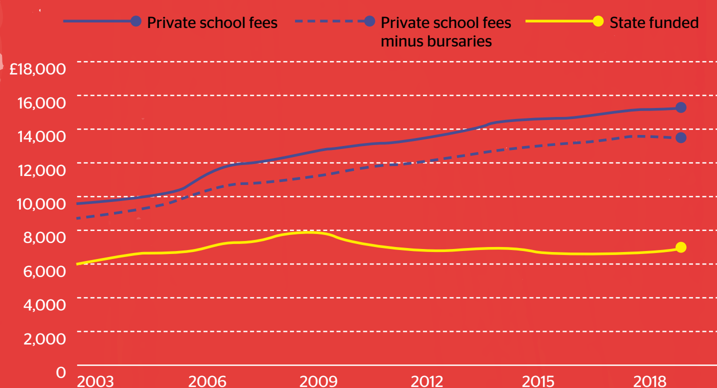
Some independent schools offer summer camps, as well as sharing playing fields, science labs and theatres. The Royal National Children's Springboard Foundation helps to send children in care to boarding schools on a full bursary. Ali Henderson, chief executive of the charity, argues that if looked-after children have priority access to their local state schools then they should also be top of the list for bursaries at private schools. Eton College has paired with Star Academies, which runs about thirty schools in some of the poorest parts of the country, to open sixth forms in two northern towns and one in the midlands to help young people who have done well at GCSE to get into top universities. These are good initiatives but to really break down the barriers between state and private schools there needs to be much more systemic change.

The government's target for all schools to become academies by 2030 creates an opportunity for much greater collaboration between state and independent schools. Many more private schools should join multi-academy trusts, sharing assets and expertise across the group. They would benefit at least as much from the experience as the state schools they partnered with. The King Edward's Foundation in Birmingham has two independent schools, six selective academy state schools and four non-selective academy schools. It goes far beyond traditional state-independent school partnerships, with a wide variety of staff and student interactions. Although each school has its own distinct selection process and fee structure, many resources are shared. Katy Ricks, the chief master of King Edward's School, Birmingham, who also chairs all the schools in the federation, said: "This model is definitely scalable, certainly in metropolitan areas. This type of organic federation, rather than loose partnerships, is the future."

Magdalen College School in Oxford is also in discussions about joining a local multi-academy trust. Education should be about building up rather than knocking down to get the best out of all schools. It should encourage collaboration rather than competition to unlock the potential of pupils.

WIDENING GAP

State school spending per pupil compared with average private school fees



Source: Institute for Fiscal Studies

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SPECIAL EDUCATIONAL NEEDS & DISABILITIES AND ALTERNATIVE PROVISION

OUT OF THE MAINSTREAM

About 1.4 million state pupils are judged to have special educational needs but that designation covers a wide range of conditions that the system cannot adequately address

At school Sir Richard Branson would sit at the back of the class "doing my own thing", baffled by the lessons. "I was a dyslexic school kid who had very little understanding about what we were being taught and what was going on on the blackboard," the businessman told the commission. When he left school at 15 his head teacher told him he would end up either a millionaire or in prison, which turned out to be accurate. Looking back on his career, and the fortune it has made him, Branson reflected that he would still be considered a failure by what he called a "one-size-fits-all" education system that defines success purely in academic terms. Yet he is convinced that the dyslexia that held him back at school has been an advantage in business. "I think by being dyslexic, I learnt to become a good delegator, which is a really important thing in life if you're becoming an entrepreneur and building businesses … I think I'm more creative at certain things. If [dyslexics] are able to concentrate on things they're good at, they will really excel at them." Getting letters in the right order is, by contrast, "so unimportant really", he said.

Cressida Cowell, the children's laureate, could not spell her name at 7, writing "Crissida" instead of "Cressida", but she channelled her creativity into amazing dragon stories with no punctuation and lots of elaborate drawings that became bestselling books and films. Albert Einstein learnt to read late and said he thought in "images and pictures not words". Greta Thunberg describes her Asperger's as a "superpower" rather than "something negative". Yet too often children with special educational needs and disabilities are treated as failures or sidelined and ignored in an education system that values only one form of success.

About 1.4 million pupils in the state education system in England, 16 per cent of the total, have special educational needs. That covers a huge range of difficulties and conditions, from mild dyslexia to serious disabilities. The number of pupils with an Education, Health and Care Plan (EHCP), those who require the greatest support, has increased in recent years from 2.8 per cent of pupils in 2016 to 3.7 per cent last year. The high needs budget, which funds these places, has risen by more than 40 per cent over three years and will total more than £9 billion this year. This has created enormous financial pressure in local authorities that are already struggling with wider budget cuts. Two thirds of councils have deficits in their dedicated schools grant budgets as a result of high needs cost pressures and last year the national total deficit was more than £1 billion. When a place in a special school can cost as much as £150,000 a year, there is a clear conflict of interest for local authorities, which are responsible for deciding which pupils should

% of parents whose children needed the greatest support and who reported that their child's needs were not met during the pandemic

get support, but also have a motive to drive down spending.

The perverse incentives mean that the system is failing too many families, with often heart-breaking consequences for children and parents. During the pandemic 68 per cent of parents reported that their child's needs were "not met at all" or only "somewhat met" in accordance with their EHCP. The government's own special educational needs and disabilities (Send) review, published in March, admitted that children too often "feel unsupported" and parents "are navigating an adversarial system and face difficulty and delay in accessing support for their child". There is a postcode lottery of provision and the system is overly complex and bureaucratic. Despite the heavy emotional and financial cost of going to court, the number of tribunals has risen steadily. Last year 96 per cent of the cases were found in favour of the parent or carer: an indication that something is going seriously wrong. Many families pour their savings into legal challenges to get their children the support to which they are entitled. According to a survey by Let Us Learn Too, one in ten spent between £50,000 and £100,000 on the tribunal process. Forty per cent of parents said that a case had wiped out their savings, 5 per cent had to remortgage their home to pay for the costs and another 5 per cent had to sell their house and downsize. More than 60 per cent said that the battle to get the right education for their child had left them with long-term financial problems. This legal route is not available to those without the resources to go to court, which means that many disadvantaged children are left with inadequate support.

Meanwhile, local authorities have spent more than £250 million fighting parents at Send tribunals since 2014, money that could have been better spent on getting pupils the right education. Matt Keer, who writes for the Special Needs Jungle blog, has spent

BOXING
ACADEMY
RULES OF THE RING

CASE STUDY

A few rounds in the ring is just the thing between English and maths

A teenage boy is punching his teacher as hard as he can, jabbing left and right. In any other school this would be a disciplinary offence but it is part of the education at the Boxing Academy, an alternative provision free school in Hackney, east London.

All students have a daily bout in the ring, between English, maths and science lessons, as well as regular fitness training. In the classrooms boxing coaches work alongside academic staff to maintain discipline.

Many of the pupils have been excluded from mainstream education for violence, some are on the fringes of gangs or have been caught up in the wave of knife crime that has hit the capital, but here they learn to channel their aggression into boxing.

Staff become therapists and even medics as well as educators. One pupil arrived at school with a knife wound in his leg, having been stabbed on the way to school.

The school has capacity for 40 pupils and more than a third have special educational needs. Anna Cain, the principal, said alternative provision such as the Boxing Academy was often picking up the pieces for a "one-size-fits-all" education system that did not cater for all pupils. "We expect every child to go through mainstream and either fit in or get dumped," she said.

20 years battling the system. He told the commission: "I've got two deaf children. They're brighter than I am, they work harder than I do, more determined than I am. The outcomes from their experience will ultimately have been good, but that's not, frankly, the way that it would have turned out if the system had been left to work its own way. One is at university, one is finishing his A-levels but the options that the system had in mind … would have meant no GCSEs. I know that because the local authority's preferred school told me straight up that kids like mine with no learning disabilities and no pressing special educational needs other than deafness, 'do not get GCSEs'." He challenged the local authority's decision to allocate a place at that school and won. "I did not have the money to spend, I did have a brain and limited bits of time I could spend grappling with the law and learning how the processes worked. People were being, frankly, dishonest about what my kids were entitled to in law. There is undoubtedly inequity within the system of how parents with varying financial and time resources can advocate for their kids."

Jessie Hewitson, deputy money editor for *The Times*, spent more than £30,000 in legal fees to get an appropriate secondary school place for her autistic son, Ellis. "My experience as a parent was feeling gaslighted by the school, by the local authority and by the council speech and language therapists, who were telling me there was no problem. The whole process is the local authority trying to tell you that what you are saying is happening is not happening. Even when I was getting my son diagnosed, I was told he wasn't autistic, he had an attachment disorder, it was my bad parenting that was at fault."

Pupils themselves are also too often left with a feeling that they are failures. Robyn Steward, who gives Send training to schools, is autistic and has nine other disabilities. She left school with no GCSEs and told the commission: "The education system is probably great if you want to be a lawyer or a doctor but I honestly feel like my whole high school years were a waste of time. It was quite traumatising with the bullying and also very overwhelming … I think schools sort of project this idea of what normality is."

£150,000

Annual cost of a place in a special school

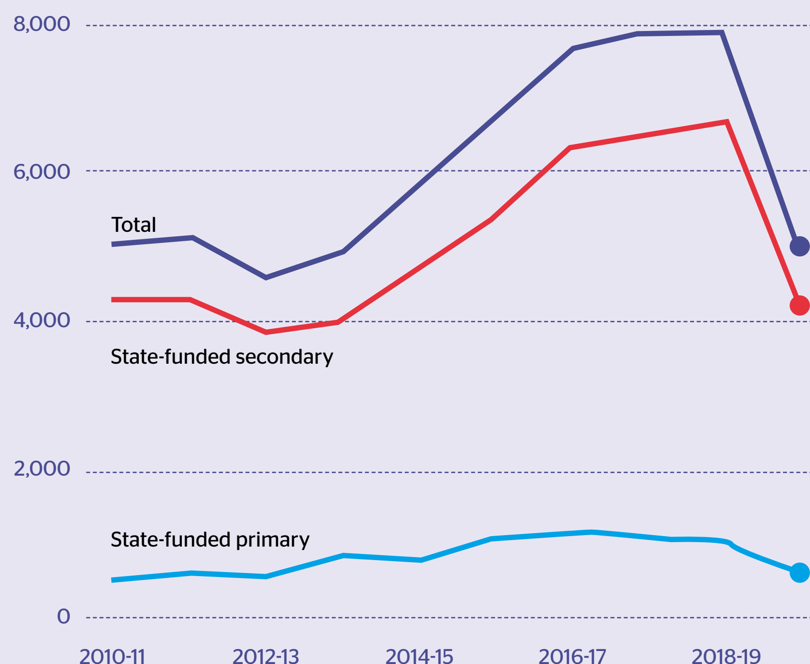
The government's green paper set out proposals for reform of the system and included some sensible and pragmatic ideas. It suggested national standards for how special educational needs are identified and met and greater clarity for parents about what can be expected. These proposals are broadly welcome, although the conflict of interest for local authorities has not been resolved and there is a question mark over whether the additional funding will be sufficient to fulfil the pledge to create a level playing field for families around the country. Some parents are also worried that the proposal for a tailored list of school place options will in practice further reduce choice.

The commission believes, however, that more could be done to make mainstream education more often a realistic option for Send pupils. At Dixons Trinity Academy, a high-performing free school in Bradford, a fifth of pupils are on the Send register. Nicola Dempsey, the director of Send and safeguarding, said classroom strategies, approaches to behaviour and lunchtime routines had all been designed to be inclusive and work for the broad range of students at the school. The philosophy of the school is: "There are no special needs children, there are only children and they are all equal," she explained. "We've got loads of autistic children and none of them are anything like each other." There is much to learn from this approach. All teachers must get better training to identify and help children with Send. Pupils with a potential problem could be flagged much earlier if there was more collaboration and data-sharing between the education and health systems. There should also be more smaller schools, which are more suitable for some autistic children, and more specialist teachers. This would save money in the long term and build a more inclusive education system. To create an incentive for heads, Ofsted should survey parents of pupils with an EHCP to see whether they are satisfied with the provision and use the information to inform rankings. Parents are the people who know their children best, and understand their needs, so they should be put at the heart of the accountability system.

There is the need for a wider shift of mindset to recognise and draw out the talents of all pupils. Ben Newmark, a teacher whose daughter has Williams syndrome, a developmental disorder, said that children with Send, and their families, are often made to feel as if there is something wrong with them. "When we compare outcomes of children with special educational needs to those without, we imply success always looks the same," he said. "This can very easily create the belief disability or greater need is something to be educated out of someone — even a defect." To get extra help, parents have to gather evidence that their child is so behind their peers that they cannot possibly catch up. "The intent is not malicious — a way of identifying children who need support is necessary — but the effect can be brutal. Many families find it traumatic. What's produced ends up being a list of things your child can't do all together in one place laid out as failures … To access help, a child needs to be seen to fail at things other children succeed at. It creates the sense that the world sees your child as worse than other children." The system needs to be reframed, he suggested, not by dismissing academic achievement but "broadening the scope of

LEFT OUT

Permanent exclusions had been rising in the years before the pandemic



Total includes exclusions from special schools. Source: Department for Education

what we celebrate and finding ways to reward learning regardless of how children perform against their peers". School, he argued, should not be "a zero-sum competition between those who find learning easy and those that don't".

This sense that there is only one way to succeed goes to the heart of the wider flaws in the system that have emerged throughout the commission's inquiry. It is another manifestation of the culture that allows a third of children to fail their GCSEs, sidelines creative subjects such as design and technology and underfunds FE colleges. Children are different, but they are all judged according to the same metric, which creates a damaging mismatch and huge inefficiencies. Tom Rees, executive director of Ambition Institute, whose son Freddie has Down's syndrome, argued that the idea of a meritocracy "creates the hubris of the successful". As he put it: "We believe our success came through hard work or talent, rather than because the odds were stacked in our favour or we were in the right place at the right time … By extension we must believe those who don't do well in life deserve their fate and didn't work hard enough. People who experience success might not say this out loud, they might not even consciously think it, but you cannot simultaneously believe that you deserved your success without believing someone else deserved their failure." Both Newmark and Rees said that they did not feel that there were "better versions" of their children, but the education system treated them as if they were somehow lacking.

Too many of those who do not fit into the narrow academic box feel written off. Nowhere is this issue more acute, or more damaging, than in the pupils who are excluded from school. The number of permanent exclusions every year rose from 4,630 in 2012-13 to 7,905 in 2017-18. An even greater number are temporarily suspended, which can be almost as disruptive to learning. The number dropped temporarily during the pandemic, when schools were shut, but this is expected to be a short-term blip. There has also been an enormous rise in what are officially called unexplained pupil exits. The Education Policy Institute (EPI) found that in 2017 more than 8 per cent of the entire pupil population were "subject to moves that cannot be accounted for" and 330 schools in England accounted for almost a quarter of the total number of unexplained exits. In those schools the equivalent of an entire class of pupils was removed from the school rolls with no explanation over the course of secondary school.

There are more than 50,000 pupils in England in alternative provision for excluded pupils. These are the most vulnerable children in society but they are too often dumped in inadequate pupil referral units, which sometimes offer only a few hours of education a week. More than 80 per cent of those in alternative provision have been identified as having special educational needs. Excluded pupils are twenty times more likely to live in poverty, seven times more likely to have special needs and ten times more likely to have mental health problems than their peers.

According to The Difference, a charity that sends high-flying teachers into alternative provision settings, only 4 per cent of excluded learners get the good GCSEs in English and maths that they need to find a job. Half end up unemployed and out of education at 16. There is a strong link between exclusion and crime. Excluded children are more than 200 times more likely to have been involved in a knife-carrying offence. Almost half the prison population and 85 per cent of boys in youth offending institutes have been excluded at school. Louisa McGeehan, chief executive of Just for Kids Law, told the commission that some pupils were manipulated into getting themselves expelled. "Often for children who are being groomed for exploitation, their behaviour is part of that. They are encouraged to be disruptive, because by being excluded, they are more available to their exploiters for doing whatever they would rather they were doing during the day, rather than having education." The Institute for Public Policy Research calculated that last year's cohort of officially excluded young people would cost the state almost £3 billion over their lifetime.

Of course, schools must have clear rules that keep all their pupils safe and allow them to learn. Tom Bennett, the government's independent behaviour adviser, said: "You have to have boundaries, and boundaries require consequences for those boundaries, and the terminal consequence will always be a permanent exclusion when the safety or the dignity or, indeed, the learning of other children, are sufficiently threatened." The trouble is that the provision for those who have been excluded is too often inadequate, which means that children are abandoned at the moment when they most need the support of the state. It is as if the NHS turned away patients who had suffered a heart attack or the fire service refused to attend burning buildings.

The majority of exclusions are close to GCSEs, in some cases because schools want to get rid of pupils who might bring down their league table ranking. It is a pivotal time in any young person's life but excluded pupils are twice as likely to be taught by an unqualified teacher and twice as likely as students in mainstream schools to have a supply teacher. In six local authorities unqualified teachers outnumber qualified ones and in three local authorities there are no qualified teachers in alternative provision at all. A recruitment crisis for the leaders working with these teachers has meant vacancies doubling between 2011 and 2016. There are some brilliant alternative provision settings, such as the Boxing Academy in Hackney, which uses the discipline of sparring in the ring to engage teenagers at risk of being dragged into gangs, but one in five pupils in alternative provision are being educated in a setting rated as "requires improvement" or "inadequate", compared with one in eight for mainstream schools. There are huge regional variations in quality and the Centre for Social Justice found that in some local authorities with the highest level of exclusions, 100 per cent of pupils are in alternative provision settings graded "inadequate."

> "
> The talents of hundreds of thousands of children are being squandered

The former children's commissioner Anne Longfield said: "The talents of hundreds of thousands of children are being squandered." She called for a "new culture of inclusion and accountability" in schools. "Over recent years, we have seen the growth of an exclusions culture that perversely rewards removing some vulnerable children from the school roll often to a dead end with little hope of them gaining the qualifications or life skills they need to get ahead in life."

Many children are being abandoned by an education system that should be trying to save them. Whitney Crenna-Jennings, the EPI's policy expert on exclusions, told the commission that it was astonishing that there was no alternative provision for young people after the age of 16. "It's expected that even though they haven't managed in mainstream education up until the age of 16, after 16 they can just enter an FE setting and be OK, but that's unlikely to

be the case." Alongside the exclusions and the murky unofficial off-rolling, there are children who are just disappearing. Last year the Centre for Social Justice suggested that 93,500 so-called "ghost children" were missing entirely from the school system. Rachel de Souza, the children's commissioner for England estimates that nearly 1.8 million children are on the school roll but persistently absent (which means they missed more than 10 per cent of the time) and 124,000 were severely absent (they did not turn up more than 50 per cent of the time). There are nearly 800 schools in England where a whole class worth of children is severely absent and they are ten times more likely to be in disadvantaged areas. The attitude of the education system too often seems to be that it is "out of sight out of mind" for pupils who do not fit into the neat regimented structures.

> "This is the most important and rewarding work in teaching

This has to change. There should be a register of all students, whether they are educated at home or in school, building on the Unique Pupil Number that

the commission proposes should be allocated at birth. That would ensure that no child slipped through the net and encourage collaboration between education, health, the police and social services. There must also be greater recognition of the potential cost to schools of dealing with the impact of adverse childhood experiences on young people. To this end, the pupil premium, which is at present allocated purely on the basis of economic deprivation, should be broadened to cover those who have been vulnerable enough to have been placed on a child protection plan.

At the same time, the standard of teaching in alternative provision settings must be driven up. Kiran Gill, who founded The Difference and is a *Times* commissioner, said that working in alternative provision should be valued as one of the most crucial roles in education. "This is the most important and rewarding work in teaching, with the biggest bang for the social mobility buck." Schools must also remain accountable for the pupils they exclude so that there is an incentive to ensure that the alternative education they receive is of high quality. It would encourage multi-academy trusts to set up their own alternative provision within the group and make it easier for excluded children to return to a mainstream setting.

Charlie Taylor, the chief inspector of prisons, who previously ran a school for children with behavioural problems, sees the results of the education system's current failings as he tours the country's jails. "The guys in prison, there are so many of them who can't read or have got learning difficulties or speech and language communication difficulties," he told the commission. "And that's been masked by behaviour over many years so no one's really dealt with the underlying difficulties." As a head, Taylor had to wear a washable suit because the children spat so much, but he introduced hugs and toast for breakfast, providing sympathy and patience as well as structure and discipline for his damaged pupils. "You don't tolerate stuff that you shouldn't tolerate but at the same time you need to have a little bit of stretch in the system in order to be able to accommodate some children who, at least initially, can't cope and need some extra time. I think of it like having a wheelchair ramp."

It frustrates him that there is an "intolerance" in some schools for the "incredibly expensive, incredibly difficult" minority of the pupils who will go on to make up a "large proportion" of the prison population. "There's no doubt there's a link between exclusion and crime, in that a large proportion of people who end up in prison have had some sort of exclusion," he said. "Head teachers have to be able to draw a line somewhere when it comes to behaviour. I would just want that, what happens next to that child to be also part of that decision … I do think there's a group of forgotten children for whom, whatever they do, it doesn't work for them."

YOUTH PANEL

More autonomy and an end to memory tests: the view from 11+

Hannah Dunwoody, 21, an engineering apprentice from Northern Ireland, said: "Being able to have autonomy through school allows you to make your own choices, deal with the consequences of the choices, and to have more confidence."

Milli Hartley-Fish, 18, an education and childcare T-level student at Nelson and Colne College, said: "It's so easy for people's confidence to be knocked and it can have a really long-lasting effect and carry on throughout their education."

Ana Nicolae, 20, who emigrated to the UK from Romania when she was 14, spoke about the disheartening experience of having "subjects chosen for me at my school because of what they considered I was capable of". Ana, who is in her second year studying mathematics and statistics at the University of Lancaster, wanted to take subjects that suited her interests and challenged her. "But because the teachers didn't know me well, they assumed, they wouldn't take the risk, or I wouldn't be able to handle it because I'm new to the country."

Kate Baker, 15, Thorp Academy in Gateshead, said: "If you don't have control over your life and your education, it sort of feels like every day being patronised by everything around you."

Armaan Amin, 18, Bede College, Stockton," said: "Technology is a main thing, especially in society these days, so I think it should be used more through education … We should be broadening our specification in the way that we sit our exams and just generally making it more realistic and applying it to the real world instead of just sitting exams that are just ten marks for this question, ten marks for that question."

Georgia Robertson, 20, a business management student at Heriot Watt University, hoped for more online exams in the future, as present tests "based on memory" are "not a really valid thing in the workforce today". She added: "We should be learning how to use the resources that we have to our best advantage, not getting those taken away and … just going off memory.

Ashgan Nassir, 16, from Ark St Albans in Birmingham, believed more technology would be introduced in education because "right now in the world we are evolving really quickly, in the past decade, two decades, we've completely changed the way that we are educated, and I think it's more efficient". She added that she hoped that education in the future would "be more catered towards teaching children or teenagers how to live life after school".

James Adams, 15, from Manor Croft Academy in Yorkshire, agreed with Ashgan that they needed to be taught "taxes and all of those kinds of things, and I think media literacy would be very important, especially in this day and age".

Oliver Myers

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FE/HE & LIFELONG LEARNING

CASE STUDY

Apprenticeships that can provide a way out of the daily grind

Sparks are flying from metal in a workshop at BAE Systems' nuclear submarine factory in Barrow-in-Furness, Cumbria. "We do grinding, burning, gouging and repairs," Mary-Lise Marvin, 35, an apprentice caulker, said as she removed her visor and helmet.

She left school at 16 and was working in a BT call centre when she decided to retrain. "I've always wanted to do something manual. I've got children and a mortgage, and I think, 'Well, I need to be able to provide for them at the same time as learn.'"

There are more than a thousand apprentices at the BAE shipyard in Barrow, which is building the Royal Navy's new generation of nuclear-powered Astute submarines. The shipyard dominates the town and a third of the population works for the defence contractor. When a submarine leaves the port for the open sea people line the streets to watch.

In the Submarine Academy for Skills and Knowledge, Callum Newby, 24, an apprentice electrician, said he had family in Barrow so would not want to move. "I don't see why I'd want to work anywhere else really, it's right on your doorstep and the best training you can get."

LESSONS IN LATER LIFE

There is much to celebrate in the higher and further education sectors but so much more could be done to make them truly accessible to everyone

Arizona State University has more than 160,000 students, more than 80,000 of them online. There are five campuses, nearly 13,000 courses and 800 degree programmes. Its faculty includes five Nobel laureates, 23 National Academy of Sciences members and 10 Pulitzer Prize winners among its 4,700 scholars. The university accepts anyone who meets its admissions criteria. "We are measured not by whom we exclude, but by whom we include and how they succeed," its charter states.

Surrounded by desert in Phoenix, where cacti line the highway, ASU is leading the way in transforming higher education, with an income of $1 billion a year. Robots trundle around the campus delivering meals to students in their rooms and there is a virtual reality (VR) classroom with headsets arranged on the desks. The university's new partnership with Dreamscape Learn enables biology students to join the "Alien Zoo" and examine strange creatures in virtual reality. During the fully immersive Deep Rescue experience participants descend virtually to the bottom of the ocean and swim with whales.

The university is the home of the Mars Space Flight Facility and an augmented reality (AR) programme lets students feel as if they are walking on the red planet, using live footage from the probe. There will soon be VR courses for dozens of degrees, which could allow students to go inside the ancient Egyptian pyramids and unwrap a mummy or astronomy undergraduates to fly through the milky way in virtual reality. Before long online students will be able to join using Oculus headsets.

Online learning at ASU does not mean passively watching lecturers speaking on a screen. The education is fully interactive and personalised, using adaptive AI. When zoology students need to do dissections they are sent a box of specimens in the post, including a snake, a weasel and a fish. Chemistry undergraduates are encouraged to create a "home lab" using household cleaning products. But there are summer courses on campus for the more involved experiments. One of the latest ventures is a YouTube channel.

It is all about appealing to different audiences and ASU students can customise their academic experience. They can choose accelerated degrees or concentrated terms and transfer credits from community college or another university. High school pupils can take modules and start working towards a degree. There is even a retirement home on campus, for elderly people who want to go back to education. Many of them also work as mentors and surrogate parents for the younger students.

"Is it really the case that size is the enemy of good?" said Michael Crow, the president of ASU. "It turns out, no it's not but it requires a change in culture and an acceptance of technology, which is very difficult in higher education. It requires a willingness to focus on learning outcomes as opposed to pre-selection as the method by which you determine your success."

The rapid expansion seems not to have affected quality. ASU is doing more non-medical research than any UK university and its graduates get the same salaries as those from the most prestigious institutions in the US. "We have more students from the upper 2 per cent of their high school class than [the elite Californian university] Stanford has students," Crow said. But ASU prides itself on being a "comprehensive university". There are hundreds of Starbucks employees and Uber drivers studying for free degrees.

"The Olympics are great but not everyone is an Olympic athlete so we have found that with very careful intellectual reconsideration, with careful introduction of technology, that scale can be realised," Crow said. Students "come in with a thousand different ways of learning so we have built the tools, the systems, the courses, the pedagogies, the academic structures. We have increased the number of graduates that we're producing and the amount of research that we're doing by a factor of five … And we increased the diversity of the students by a factor of ten."

A decade ago, ASU reimagined its engineering departments, replacing them with "grand challenge schools". The number of students has grown from 6,700 to 27,000: nearly 18,000 on campus and 9,100 online. According to Crow: "We now have more women and more minorities in engineering than we had students in engineering." Technology has enabled ASU to simultaneously expand and improve results by personalising the learning, he said. "We used to teach maths to 25 students per section, now we teach at 125 students per section and the outcomes are

four times better." The university has just opened a branch in east London in collaboration with King's College called the Engineering Design Institute based in Canada Water. Crow has noticed that higher education in this country is "highly sociologically hierarchical" and stuffy. "The adoration of tradition in higher education is probably second only to religion and higher education has a lot more money," he told the commission.

Higher education policy in Britain can appear to offer the antithesis of the approach at ASU. The focus can be more about who is excluded than who is included. Rather than providing strong consistent and aspirational leadership, over the past few years ministers have been capricious and overly political. They have seemed to think that too many people are going on to higher education and take any opportunity to pick a fight with universities, whether over free speech or so-called "Mickey Mouse degrees". The government is consulting on the reintroduction of student number caps and minimum grade requirements, which according to the Institute for Fiscal Studies (IFS) would disproportionately affect poorer pupils.

The Conservative Lord Willetts, a former universities minister, said it was unlikely to be the children in leafy shires who missed out if the number of places were squeezed. "When I was an MP representing a relatively low [higher education] participation area, I was always very aware that if the only way more kids from Havant could go to university would be if fewer kids from Guildford or Winchester went to university, then we'd have a very tough battle. It is a deep-seated trend across advanced western countries that more people go into higher education. I think it'll carry on rising, and if you want to see more opportunities for people from more disadvantaged backgrounds then it's really important that it goes up because if they can only secure those places at the expense of the middle-class kids who are already going, and it becomes a zero-sum game, then it's much harder for them to make progress."

Willetts analysed the constituencies with the biggest apparent problem of too many people going to university. There were 39 notorious "trouble spots", as he put it, where more than 60 per cent of school and college leavers go to university, including the Tory heartlands of Wimbledon, Chelsea and Fulham, Chipping Barnet, Esher and Walton and Beaconsfield. "If we are to cut numbers going to university this is where the battle must be fought but it is not going to happen there," he said. He believes that policy is being driven by politics rather than pragmatism as the Conservative Party's electoral base shifts away from young Remainers towards older Brexiteers. At the last election, the Tories beat Labour by 44 per cent to 32 per cent but among graduates they trailed Labour by 14 points and polled only 29 per cent. Universities, Willetts wrote last year, "look like the place where young people go to be vaccinated against Conservativism" and "President Trump's remark that 'I love the poorly educated' hovers over the Tory debate". This is not how policy should be determined.

> "Abolishing student number controls has been the standout levelling-up policy

The former universities minister Lord Johnson of Marylebone said: "Abolishing student number controls has been the standout levelling-up policy of the last decade. Today, students from disadvantaged backgrounds are more than 80 per cent more likely to attend the most selective institutions than a decade ago. This is what happens when there are more places: universities can enrol bright kids from Sunderland without turning away lavishly educated ones in Surrey. Of course we need better-funded and better-quality technical routes for those for whom an academic path is not the best idea. But survey after survey unsurprisingly shows parents overwhelmingly wanting their children to be able to participate in a knowledge economy in which jobs are overwhelmingly created in sectors disproportionately employing graduates. That will mean putting high-quality higher education within reach of more people will become ever more important."

The international evidence is abundantly clear: higher education is an enormous contributor to economic growth, developing skills and driving innovation. High-innovation economies such as South Korea, Japan and Canada understand this and have boosted higher education. Participation rates in these countries are between 60 per cent and 70 per cent.

The Treasury worries that too much student debt is not repaid and the taxpayer picks up the bill. According to the IFS, nearly a fifth of UK graduates earn less than if they had not gone into higher education. But this means that 80 per cent of graduates still derive a financial benefit and there are wider bonuses including increased life expectancy. In any case, graduate earnings are a poor measure of value. A nurse is not any less valuable to society than a banker. Education cannot be judged in purely monetary terms.

Sir Malcolm Grant, the former provost of University College London and chairman of NHS England, said that university places should be driven

by student choice rather than ministerial diktat. “There’s this political mythology that there are Mickey Mouse courses, which I think is so denigratory. When the University of Teesside introduced a new degree programme in gaming … everybody said, ‘Mickey Mouse. What are you doing?’” But those kids went out and they earn the biggest fortune. I really dislike that denigration of areas that students actually want to study.”

Universities cannot be absolved entirely from blame over the past few years. They are not well constituted to provide a strong united voice in Westminster and Whitehall and often they have let obvious injustices continue insufficiently checked, including vice-chancellor pay, free speech abuses and grade inflation. Despite efforts to widen access there is more to do and universities have not understood the potential for technology to transform higher education.

The reality, however, is that the government’s approach is at odds with demographic trends. Analysis by the Higher Education Policy Institute (Hepi) found that 350,000 extra full-time places would be needed in England by 2035 just to keep up with the rising number of 18-year-olds. Nick Hillman, the director of Hepi, said: “The public, regard education as a consumer good and they want more of it.”

So far this year, Ucas has received a record 338,510 applications from 18 and 19-year-olds, up from 311,000 last year. Alastair Jarvis, former chief executive of Universities UK, said that there were a million more professional jobs than workers with degrees to fill them. “The government may well, this year or next year, decide that they think there’s too many people going to university, but I think if they look a little bit further down the line, there’s some real dangers for them,” he said. “If they capped university places, it would have a negative economic impact in the short-to-medium term, it would have a negative impact on our public services and it would stop people who are aspiring to study at a higher level. And, frankly, at the ballot box, if the economy is tanking because people can’t get highly-skilled workers, if you have young people who want to go to university, maybe their older brothers and sisters had a place but, actually, there’s no place for them because we’ve shrunk the opportunities, I think that’s electorally disastrous.”

Sir Tony Blair, who as prime minister initiated a huge expansion with his call for 50 per cent of young people to go on to higher education, now backs a 70 per cent target by 2040. “Going to university is a choice. People choose to do it in greater numbers. I would be very loath to take that choice away from them,” he told the commission. Lord Adonis, the former schools minister who gave evidence alongside Blair, said he hoped and believed that the proportion of young people going to university would continue to rise. “This is more fulfilment and more opportunities for more people,” he said. “There are nearly fifty towns in England that have over 80,000 population and no dedicated higher education institution. When I look at those communities in the midlands and the north, those that are succeeding and those that are failing, having a university makes a big difference.”

The key question, though, is what and how people learn. New universities including the Dyson Institute, which offers degree apprenticeships in engineering, and the New Model Institute for Technology and Engineering (NMITE) in Hereford, which offers intensive three-week project-based modules, are pioneering a different type of higher education that is more closely linked to employment. Jesse Norman, the former Treasury minister, Tory MP and one of the founders of NMITE, said: “Much UK higher education still reflects ideas about abstract thinking, elite education, vocation, class and wealth that originate in the 12th century. Alongside the traditional providers we badly need new models in higher education, especially those which emphasise learning-by-doing, open access and modularity.” NMITE, like ASU, takes an open approach to recruitment, focusing on five personal qualities — grit, curiosity, passion, creativity and collaboration — instead of grades. Gary Neville’s UA92, around the corner from the Old Trafford stadium where he played throughout his career with Manchester United and England, draws on the strategies and mindset of elite sport. Neville sees himself as a “disrupter” in an elite world of ivory towers.

Innovation should be encouraged but there is too much bureaucracy involved in setting up a new institution: the paperwork can run to 1,000 pages or 1.5 million words, according to those who have ploughed through the application, and involves long delays. The process should be streamlined and speeded up.

The government should see higher education as part of its “levelling up” agenda rather than something to be denigrated. The commission

CASE STUDY

‘What makes you stand out? It’s not just the certificate, its your character and commitment’

Gary Neville describes his new university UA92 as a “disrupter” in the ivory tower world of higher education. “We rip down the walls of snobbery here,” he said.

The courses at UA92 are academically rigorous — degrees are awarded by Lancaster University — but there is also a strong emphasis on character, teamwork and preparation for future employment. All undergraduates undertake regular work placements and the curriculum is designed in consultation with business partners, who include KPMG, Talk Talk, Microsoft and, of course, Manchester United, Neville’s former team.

1,000

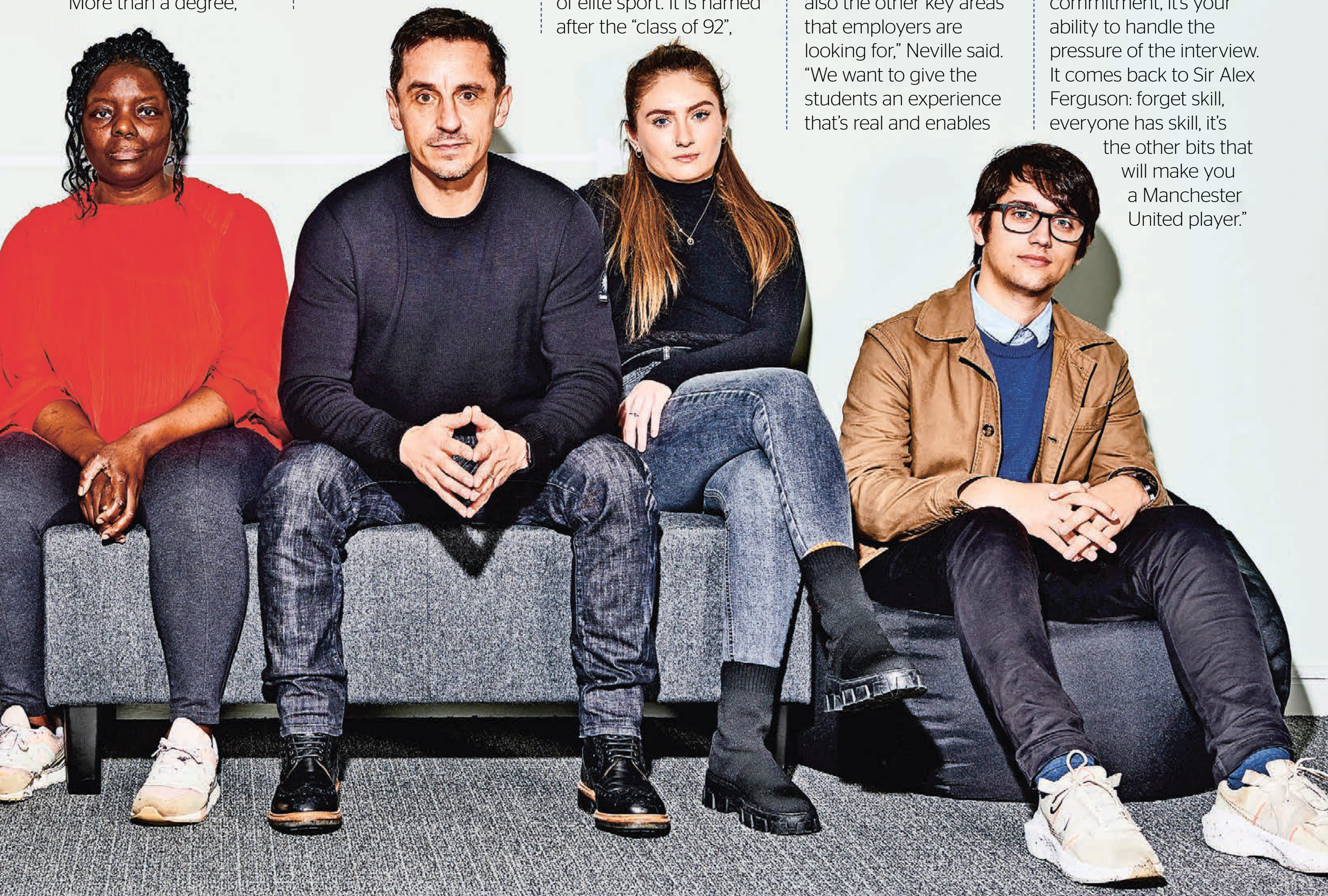
The pages of paperwork involved in setting up a new college

There is a cybersecurity collaboration with GCHQ.

The qualifications are built around four main specialist subject areas — business, media, sport and digital — but these are just the starting point. "More than a degree," boasts the website. "This is a preparation for life."

There is a concerted effort to recruit those who would never normally have considered going on to higher education. The university actively goes out into schools, youth clubs and sports centres to try to persuade people to apply.

The new university explicitly draws on the strategies and mindset of elite sport. It is named after the "class of 92", the talented young Manchester United players including Neville, below, who were hired by Sir Alex Ferguson in that year. "It's not just focus on the skill — the subject, if you like — but also the other key areas that employers are looking for," Neville said. "We want to give the students an experience that's real and enables them to be well-prepared. The employers know you've got the certificate, so what's going to make you stand out at the interview? It's your personality, it's your character, it's your commitment, it's your ability to handle the pressure of the interview. It comes back to Sir Alex Ferguson: forget skill, everyone has skill, it's the other bits that will make you a Manchester United player."



proposes that the planning and funding systems should be used to incentivise the creation of fifty new university campuses in higher education "cold spots" and deprived parts of the country. These should include university wings in further education colleges and satellite campuses, which will be quicker and easier to get off the ground than whole new institutions.

In Mansfield, Nottingham Trent University has opened a campus in West Nottinghamshire College, offering courses in nursing, sports science and business. It is already recruiting students who would not otherwise have considered going to university and the local hospital is also grateful for the supply of qualified nurses who live in the area and so are more likely to stay. Edward Peck, the vice-chancellor of Nottingham Trent, said proximity was crucial to encourage social mobility "because local people can then see that university is not mysterious, you just move from one building to another, it's 50 yards away, with the same canteen and car park. The more you create physical distance between further education and higher education the less students are likely to progress."

Andrew Cropley, the college principal, believes the collaboration will help to regenerate the area. "If you look at our demographic there is this tiny model waist of 18 to 30-year-olds who disappear. We've got this huge brain drain. My mission is that we change that and create opportunities that encourage bright people to create a career for themselves here."

The government is setting up a false choice between higher and further education and there should be more collaboration rather than competition between the sectors. Employers should also be encouraged to get involved in tertiary education. In Barrow-in-Furness, Cumbria University is opening a campus on land owned by BAE Systems right next to the company's factory that is manufacturing the next generation of nuclear submarines. In an area of low participation in higher education, it will offer courses that are directly relevant to the local jobs.

Student tuition fees, which have been frozen for five years, should be allowed to rise from 2025. Most universities are already making a loss on domestic students and Adam Tickell, vice-chancellor of Birmingham University, told the commission that it was no longer economic to increase the number of home students. "The only relevant thing we have to increase income is to try to increase our international students," he said.

Even more important, though, is the funding of

further education, which has had the largest falls in per-pupil spending of any sector in the education system since 2010. The extra money announced by the Treasury only reverses a fraction of the past cuts and college spending per pupil will still be about 10 per cent below 2010-11 levels by 2024-25. Colleges educate and train a million adults and 660,000 young people aged 18 and under each year but many are struggling and staff recruitment is a huge problem. Lecturers in colleges are paid more than £9,000 less on average than teachers in schools and the £30,000 starting salary that the government is promising teachers does not apply to lecturers. This is not only wrong but it goes against the government's commitment to boost the nation's skills.

As the former Tory education secretary and chancellor Lord Clarke of Nottingham said, FE colleges have always been the Cinderellas of the education service. "The teachers do an equally important job," he said. "Their status and pay and conditions should roughly match that of people of the same quality in the school system." If "parity of esteem" between vocational and academic routes is the goal, as ministers frequently suggest, then funding for post-18 students should also be allowed to follow the student in FE colleges, as in universities, so that popular courses can expand.

Amanda Melton, principal of the Nelson and Colne College Group in Lancashire and a member of the commission, said the government was "missing a trick" by failing to invest in a sector that is critical for the prime minister's levelling up agenda. "It perceives that further education is a kind of cheap and dirty oil rag, garage down the street sort of thing. It doesn't maximise the opportunity … For each young person, you're identifying what their area of interest and capacity is and then working out what it is that they need."

Her college has one of the best resit rates in the country. The "forgotten third" who do not get a good pass at GCSE at 16 "don't fail, they're just different," she said. "If we start telling children at 16 that they are either on the right track or not on the right track then that is just going to ruin their future and the economy. You are in danger of discarding the talent in the population."

David Hughes, chief executive of the Association of Colleges, believes there is a snobbery towards further education. "Money is almost the last problem," he said. "I think the fundamental issue is there's a prejudice against technical education. Most of the officials in Whitehall and politicians will have been the ones who have done quite well at 16, gone on to do A-levels then gone to university and I think many literally look down their noses at people who haven't done that."

The public, by contrast, is increasingly positive about technical and vocational options. The YouGov poll for the commission showed that 44 per cent of parents would prefer their own child to study for an apprenticeship, compared with 35 per cent who favoured an academic degree. With some apprenticeships now more oversubscribed than Oxbridge courses, "they pass the middle-class dinner party test", as Euan Blair, the founder of Multiverse, put it. He disagrees with his father that more people should go to university. The Labour government "believed that the more people who went to university the more social mobility would happen", he told the commission. "It's obviously not worked out like that. What you want is students leaving school able to make a clear-eyed decision about their future." Too many universities are, in his view, not delivering "good outcomes" for people. "The lack of a credible alternative has allowed a lot of universities not to ask difficult questions about … what responsibility do we play in getting people careers?"

In 2020 Boris Johnson promised an apprenticeship to every young person, amid fears of a wave of youth unemployment as a result of the pandemic. The government has introduced an apprenticeship levy on employers in an attempt to boost the number of apprentices but many companies say the scheme is too inflexible.

The number of entry-level apprenticeships has fallen by 56 per cent since 2011, double the overall fall in apprenticeships. There are now nearly twice as many people over the age of 25 taking apprenticeships as there are 19-year-olds. The apprenticeship levy should be reformed to incentivise employers to take on young apprentices. Too much of the pot at present is spent on MBAs for senior executives. Only one in six companies believes that the apprenticeship levy system is working well.

Sir Roger Carr, chairman of BAE Systems, one of the biggest apprenticeship providers, said that growing numbers of undergraduates were quitting university courses to take up apprenticeships, which offer a clearer route to employment and no debt. "Fifty years ago we had a society where apprenticeships were both valued and important, respected and recognised. They went through a period where there was a whole shift towards, if you hadn't gone to university to study an academic subject, somehow you were getting a second-grade education and apprenticeships were socially downgraded as a result of that. We threw the pendulum too far in one direction and I think that pendulum is now swinging back."

About 2,400 apprentices are training with BAE Systems, which is manufacturing the next generation of nuclear submarines in Barrow-in-Furness, Cumbria, and the Eurofighter Typhoon jets in Lancashire. More than a quarter come from underprivileged parts of the community. "We seek out those people who have got ambition and talent from all backgrounds," Carr said. "I think it's socially important we do that … You can have a defined academic university career path which is first class, but you can have in parallel to that a well-defined and valued apprenticeship career path, which is equally recognised."

Lord Rees of Ludlow, the Astronomer Royal, argued that the pandemic, which left university campuses silent and deserted at the height of Covid-19, had created an opportunity to rethink post-18 education and introduce more variety and flexibility. "We've got to blur the boundaries between further and higher education," he said. "Students who realise that the degree course they embarked on isn't right for them, or who have personal hardship, should be enabled to leave early with dignity, with a certificate to mark what they've accomplished. They shouldn't be disparaged as wastage."

There should be a transferrable credit scheme to allow people to move between institutions, or take time out of education then go back so that learning becomes a truly lifelong experience. This would, as Rees put it, give more students a "second chance" later in life. It could also benefit students who improve or outperform expectations in their first two years and may be able to transfer. Technology should be the enabler of flexibility, rather than just a way of delivering lectures online.

Heather McGregor, executive dean of Edinburgh

Business School, Heriot Watt University, argued that the economic benefit would be invaluable. “Policymakers are always arguing that the way the UK can address the productivity gap is through upskilling. But the creation of human capital, just like life itself, is non-linear. True lifelong learning needs to allow for changes in geography and circumstances as well as different entry and exit qualifications. Transferable credit within and between institutions in the FE and HE sectors would facilitate upskilling at scale.”

The Lifelong Loan Entitlement being introduced in 2025 is a step in the right direction. It will allow everybody to access a pot of up to £37,000 (the equivalent of a four-year university course) to use over their lifetime on higher technical and degree-level qualifications. The scheme is not as flexible or generous as it needs to be, however, to transform lifelong learning in the UK. For it to be a real game-changer some form of maintenance provision must be offered so that it is made accessible for working people, and fresh attempts at lower-level qualifications such as GCSEs should be fully funded for those who missed out and were let down by the system during their adolescence.

Singapore gives everyone over the age of 25 the equivalent of nearly £300 through the Skills Future programme to “pursue lifelong learning, build personal mastery and pursue their passion”. People over 40 get an extra £300. There is a database of 10,000 courses and about 60 per cent of the population have used their credit. Everybody is eligible for the grant and that should be the ultimate aim in this country too.

According to the CBI nine out of ten people will need to reskill by 2030: 26 million workers will upskill and 5 million workers will have to fundamentally retrain. The idea that education is something that stops at 18 or 21 is increasingly at odds with the reality of a rapidly changing world. At the Open University campus in Milton Keynes, Susan Percy, 64, described having left school at 15 but then returning to education at the age of 59 having retired from her job on the railways because of ill health. “They had to teach me times tables to start with, which was quite embarrassing, but I did it and I got a distinction,” she said. “I thought it’s years since I’ve felt like this, and it gave me a buzz. Now I’m on to the last year of my sociology degree. You can start again. I think it’s about confidence because up until coming here my confidence was on the floor. It brought me out of my shell. I feel like I belong somewhere, and I haven’t felt that for many years. It’s like I’ve gone back to being 18.”

The painter Titian is said to have put down his brush at the age of 86 and declared “I think I’m beginning to learn how to paint”. Education is liberating and empowering at any age.

We conclude this report, which uniquely in Britain has looked at education from the cradle to the grave, with the reflection that there is much to celebrate in further and higher education. But like every single aspect of education from early years to adult education, it could be doing so much more to allow the talent in the country to be fully identified, nurtured and developed. Doing so in the ways we have suggested in this report would make for a fairer society, a more productive economy and a happier and healthier population as we embrace the challenges of the 21st century.

THE EDUCATION COMMISSION

Rachel Sylvester Chairwoman

Sir Anthony Seldon Deputy chairman. Contemporary historian, former head of Brighton College and Wellington College and former vice-chancellor of the University of Buckingham

Geoff Barton General secretary of the Association of School and College Leaders

Lord Bilimoria Founder of Cobra Beer, president of the CBI and chancellor of Birmingham University

Sarah-Jayne Blakemore Professor of cognitive neuroscience at Cambridge University, who leads a group studying the adolescent brain and behaviour

Sir Damon Buffini Founding partner of Permira and chairman of National Theatre and the Cultural Recovery Fund Board

Dame Sally Coates Director at United Learning, which runs 90 schools, and the author of a review of education in prisons

Evelyn Forde Head teacher of Copthall School in Barnet and the winner of TES head of the year 2020

Kiran Gill Founder of The Difference, which sends high-flying teachers to referral units and alternative-provision schools

Robert Halfon Conservative MP for Harlow and chairman of the Commons education committee

Lucy Heller Chief executive of Ark, a charity that runs schools

Tristram Hunt Victoria & Albert Museum director and a former Labour MP

Lord Johnson of Marylebone Chairman of TES, and former universities minister

Paul Johnson Director of the Institute for Fiscal Studies

Lucy Kellaway Teacher at Mossbourne Community Academy in Hackney and co-founder of Now Teach

Baroness Lane-Fox of Soho Chairwoman of WeTransfer, chancellor of the Open University and chairwoman of the Lords Covid-19 select committee

Anne Longfield Former children’s commissioner for England

Professor Heather McGregor Executive dean of Edinburgh Business School at Heriot-Watt University

Amanda Melton Principal of Nelson and Colne College in Lancashire

Sir Michael Morpurgo Author, poet, playwright and former teacher

Lord Rees of Ludlow Astronomer Royal

Professor Dame Nancy Rothwell Vice-chancellor of Manchester University and chairwoman of the Russell Group

Sir Tim Smit Executive vice-chairman and co-founder of the Eden Project

International adviser Andreas Schleicher, director for education and skills at the Organisation for Economic Co-operation and Development

Oliver Myers and **Holly Papworth** Researchers and policy advisers

YOUTH PANEL

Primary Azaan, 11, Ivybridge Primary School, Isleworth; Mia Carey, 10, Belvoirdale School, Leicester; Isaac Crompton, 11, West Jesmond School, Newcastle; Jack Ewin, 11, Fulwell Junior School, Sunderland; Ethan Kent, 10, Belvoirdale School, Leicester; Aleisha Mahmood, 11, West Jesmond School, Newcastle; Moriah, 11, Ivybridge Primary School, Isleworth; Phoebe Smith, 11, Fulwell Junior School, Sunderland

Secondary James Adams, 15, Manor Croft Academy, Yorkshire; Kate Baker, 15, Thorp Academy, Gateshead; Subhan Chouan, 16, Ark St Albans, Birmingham; Chantelle Dangare, 15, Manor Croft Academy, Yorkshire; Aiden Davenport, 16, Ark Alexandra Academy, Hastings; Ashgan Nassir, 16, Ark St Albans, Birmingham; Sobiya Patel, 15, Manor Croft Academy, Yorkshire; Akshainie Rajan, 15, Ark Academy, Wembley; Daniel Vokes, 14, Manor Croft Academy, Yorkshire; Thomas Wicker, 15, Ark Alexandra Academy, Hastings;

Post-16 Armaan Amin, 18, biology, chemistry and psychology A-level student at Bede Sixth Form College, from Stockton; Hannah Dunwoody, 21, higher level apprenticeship in mechatronic engineering, Lisburn SERC, from Bangor (NI); Milli Hartley-Fish, 18, T-level education and childcare, Nelson and Colne College, from Colne; Corey Hill, 20, 2nd Year LLB Law, Cardiff University, from Cwmbran; Kai James, 18, drama, English, economics and RS A-level student, Exeter School, from Exeter; Mobena Khatun, 21, apprentice economist, labour markets and living standards analysis, HM Treasury, from London; Ana Nicolae, 20, 2nd year mathematics and statistics at the University of Lancaster, from Romania; Georgia Robertson, 20, 3rd year international business management with human resource management, Herriot Watt University, from Dunblane; Jacob Warwick, 20, marketing apprentice, Unilever, from Hampshire

APPENDIX

LIST OF RECOMMENDATIONS

Chapter One
Purpose of Education

1 There should be a 15-year strategy for education, drawn up in consultation with business leaders, scientists, cultural figures, local politicians and civic leaders, to cover the full cycle of a single cohort of pupils from four to nineteen. The strategy could be monitored by a small independent body, similar to the Office for Budgetary Responsibility.
2 Education expenditure should be thought of "as capital investment" in the country's future. "Human capital" does not fit within three-year spending cycles any more than does a commitment to big infrastructure projects.

Chapter Two
Social Mobility and Levelling Up

3 The eight programmes that support childcare should be managed by the Department for Education, rather than across three departments, and brought together into a single pot. Funding should be targeted at the most disadvantaged and focused on education and child development.
4 The 30-hour entitlement should be extended to non-working parents to ensure that the children with the least support at home get it in a professional setting. This would cost about £250 million a year for all three and four-year-olds, or £165 million if only disadvantaged children got the extra hours. Removing the 30-hour entitlement from families where at least one parent earns more than £50,000 a year would save about £100 million a year, if set below £40,000, it would be cost-neutral.
5 The early years pupil premium of £302 should be brought into line with primary school rates of £1,345. Raising it, at an estimated cost of £130 million a year, would make it easier for nurseries to break even, reduce the reliance on cross-subsidy and allow providers to pay their workers a more competitive wage.
6 There should be a better career structure, professional development and training for early years teachers to develop a well-qualified workforce with the appropriate knowledge, skills and experience to deliver high-quality early education.
7 Every child should get a "school readiness card" at the end of nursery, describing their skills and development.
8 A unique pupil number allocated at birth would encourage greater co-ordination and data-sharing between government agencies (such as education, health and social services) to stop the most vulnerable falling through the gaps.
9 Every primary school should have a library.
10 There should be an army of student tutors, to be properly trained, who should earn credit towards their degree in return for tutoring, either in person or online, in local schools. They could become role models for young people, boosting aspiration among the younger pupils who will see what others from their background have achieved.

Chapter Three
The Curriculum

11 A more rounded curriculum for the 21st century that engages young people and empowers teachers, based on knowledge, skills and character, and with more regional variation, with input from metro mayors, civic leaders and employers. There should be more interdisciplinary learning and less early specialisation. The curriculum should be widened and made relevant to the most racially diverse generation in British history without ignoring the classics or politicising history.
12 There should be an elite cadre of high-quality technical and vocational sixth forms, driven by industry, set up as part of the free schools programme. These Career Academies would be clearly focused on preparing young people for work, with a curriculum designed to fill skills shortages.
13 Bursaries for trainee language teachers should be brought back in line with science and maths. Foreign students could be recruited through the volunteer tutoring programme to work as virtual language assistants.
14 Sport, music, drama, art, debating and dance should be an integral part of the timetable for all children, not an optional "extracurricular" add on, with an "electives premium" of £50 a year for secondary school pupils to fund additional sports coaches, cultural clubs and outings. It would cost £175 million a year, or £215 million if the sum were doubled for pupil premium students. To facilitate the programme, the DfE should set up a digital platform to help schools to find local providers offering activities.
15 Schools should be responsible for "bucket-lists" of outings and activities — ten by ten and seventeen by seventeen — and public transport ought to be free for school trips.

Chapter Four
Assessment

16 A British Baccalaureate at 18, an equally rigorous but broader qualification than A-levels with academic and vocational options under the same umbrella. Pupils studying for the academic Diploma Programme would take six subjects — three major, three minor — covering humanities and sciences as well as units on critical thinking, communication and creativity. Those on the Career-related Programme would combine learning (which could include BTecs or a T-level) with work experience. There would be the option for students to "mix and match" elements of both programmes to create the qualification that best suited them. All pupils would do an extended project, community service and some literacy and numeracy through to 18. Digital skills would be woven through the whole curriculum.
17 At 16, pupils should take a slimmed-down set of exams in five core subjects, with continuous assessment as well as online tests contributing to their grade. This would allow children to progress to the next level and provide accountability for schools but lower the stakes and reduce the amount of time spent on preparing for and taking exams. Everybody would be expected to pass English and maths at a basic level necessary to be able to participate fully in life.
18 The per-pupil funding of 16 to 19-year-old education should be equalised with the budgets for 11 to 16 education. This would cost about £1.2 billion a year, according to the Institute for Fiscal Studies, and would remove a historic anomaly in the funding mechanism that dates to the time when the school leaving age was 16.
19 A Digital Learner Profile, a personal online portfolio for every student, including academic qualifications alongside a record of other achievements: video footage of a pupil playing a musical instrument, photographs of projects they have worked on or details of expeditions, volunteering and work experience. Individuals would be able to add to the profile throughout their lives and use it as a digital CV.

Chapter Five
Teaching

20 Reform is needed to make Ofsted feel less like a "big stick" and more of a "helping hand" and schools should get a "report card". There is no reason that Ofsted inspections should not be planned in advance. The criteria used to assess schools must also be widened to encourage the rounded education pupils need and deserve. Ofsted has to uphold academic standards and defend rigour, but it should also assess pupil wellbeing, the quality of enrichment activities, teacher morale, attendance and inclusion. The Times will review its own school league tables to see how they can reflect a wider definition of success.
21 The status of the teaching profession in this country should be raised and the job made more intellectually engaging. Professional development should be backed by revalidation every five years by a beefed-up Chartered College of Teachers. This would mirror the certification process for doctors run by the General Medical Council, emphasising excellence while ensuring that all teachers are up to date with new technology as well as developments in neuroscience and pedagogy.
22 A new category of Consultant Teachers should be created so that staff can work towards promotion within the classroom, rather than having to move into management.
23 An undergraduate teaching degree apprenticeship would boost recruitment, increase the diversity of

the profession and make it easier for teaching assistants to progress. Apprentice teachers would study a subject specialism alongside their professional training, meaning that they would be fully qualified at the end of the course. The apprenticeships could be funded through the apprenticeship levy that is already paid by many multi-academy trusts.
24 A National Leadership Programme for head teachers should be established to build a network of support for leaders who often feel quite isolated.

Chapter Six
Technology

25 Every child should have a data-enabled device, provided free to those who cannot afford their own. The DfE could help to identify suitable machines and arrange a collective purchasing or leasing arrangement to reduce cost.
26 The government should draw up a list of educational services that are exempt from data charges, which would then be automatically "zero-rated" by all networks on all provider plans: a digital version of the free 0800 number.
27 A flagship Technology Academy should be set up to try out innovations in education, AI and VR. Schools should be encouraged to capitalise on the most effective innovations to personalise learning for their pupils and reduce teacher workload. Exams must very rapidly evolve to use adaptive testing and AI could be used for more accurate continuous assessment. Digital skills must be woven through the whole education system just as technology is integrated into our lives.

Chapter Seven
Wellbeing and Mental Health

28 There should be a counsellor, physical or virtual, in every school to help pupils before they reach crisis point. The Coalition for Youth Mental Health in Schools estimates that this would cost about £140 million a year but the price could be reduced if some of the counselling were delivered online.
29 Teachers, who are often the first to see an emerging mental health problem, also need more support. There should be annual mental health training for all teachers, just as there is on safeguarding.
30 There must be a shift towards prevention rather than cure, with more emphasis placed on developing the emotional resilience of young people.
31 The government should conduct a national wellbeing survey through secondary schools to give a consistent measurement of young people's wellbeing across every area of the country. This would focus attention on the importance of mental health, encourage schools to prioritise their pupils' wellbeing, allow Ofsted to assess progress and build an understanding of how to create more contented children. Based on the initial costs of BeeWell's survey, it would cost about £30 million per survey year.

Chapter Eight
Schools in the Community

32 A universal National Citizen Service programme should be established for all pupils at 14 to foster community cohesion. It would involve a two-week residential course, an expedition, a Dragon's Den-style team project and volunteering. Private and state, grammar and faith schools would be involved to encourage social mixing. A universal programme would cost about £500 million a year and spending could be kept to a minimum by using all year round the facilities and expertise already available for the existing summer scheme.
33 Schools must have more to do with the businesses in their community and high-quality careers guidance should be an integral part of education, including in primary schools. Careers hubs, which bring together schools and colleges with local businesses and apprenticeship providers, show a way forward and should be opened across the country. Teachers should also be given the chance to spend time in the business world to build links. There must be a careers leader, who would be responsible for liaising with industry, in every school and college, and all secondary pupils should get the chance of work experience.
34 Many more private schools should join multi-academy trusts, sharing assets and expertise across the group. The government's target for all schools to become academies by 2030 creates an opportunity for greater collaboration between state and independent schools. They would benefit at least as much as the state schools they were partnered with.

Chapter Nine
Special Educational Needs and Disabilities and Alternative Provision

35 More could be done to make mainstream education a realistic option for more Send pupils. All teachers must be trained to identify and help children with Send. Pupils with a potential problem could be flagged earlier if there were more collaboration and data-sharing between the education and health systems.
36 There should be more smaller schools, which are more suitable for some autistic children, and more specialist teachers. This would save money in the long term and build a more inclusive education system.
37 Ofsted should survey parents of pupils with an EHCP to see whether they are satisfied with the provision and use the information to inform rankings. Parents know their children best, and understand their needs, so they should be put at the heart of the accountability system.
38 There should be a register of all students, whether educated at home or in school, building on the Unique Pupil Number that the commission proposes should be allocated at birth. That would ensure that no child slips through the net and encourage collaboration between education, health, the police and social services.
39 The pupil premium should be broadened to cover those placed on a child protection plan, as a greater recognition of the potential cost to schools of dealing with the impact of adverse childhood experiences on young people.
40 Schools must remain accountable for the pupils they exclude so that there is an incentive to ensure that the alternative education they receive is high quality and for standards in AP to improve.

Chapter Ten
FE/HE and Lifelong Learning

41 The planning and funding systems should be used to incentivise the creation of 50 new university campuses in higher education "cold spots" and deprived parts of the country. These should include university wings in FE colleges and satellite campuses, which will be quicker and easier to get off the ground than whole new institutions. Employers should also be encouraged to be involved in tertiary education.
42 The status and pay and conditions of teachers in the FE sector should roughly match that of people of the same quality in the school system. If "parity of esteem" between vocational and academic routes is the goal, as ministers frequently suggest, then funding for post-18 students should also be allowed to follow the student in FE colleges as in universities so that popular courses can expand. The government is setting up a false choice between higher and further education and there should be more collaboration rather than competition between the sectors.
43 Student tuition fees, which have been frozen for five years, should be allowed to rise from 2025 as most universities are already making a loss on domestic students.
44 There should be a transferrable credit scheme to allow people to move between institutions, or take time out of education then go back so that learning becomes a truly lifelong experience.
45 The Lifelong Loan Entitlement should be expanded to offer maintenance provision and fresh attempts for lower-level qualifications should be fully funded for those who were let down by the system. If the scheme is more flexible and generous it could transform lifelong learning in the UK.

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