INSIGHTS

ISSUE 1

IN PURSUIT OF HAPPINESS

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The Fourth Education Revolution by Sir Anthony Seldon

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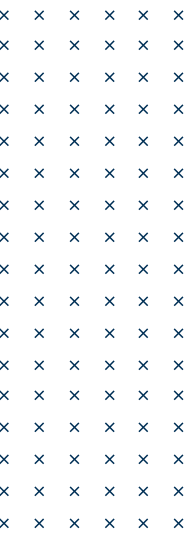
CHAIRMAN'S FOREWORD

Lord David Puttnam, Chairman, Nord Anglia Education Advisory Board

Welcome to the first of what I hope will be many editions of 'Insights'.

Our hope is that, on a quarterly basis, we can bring you a small number of informative articles and interviews with world authorities covering areas of education which, at a time of incredibly rapid change, all of us are finding most challenging.

For example, our cover story explores the effect childhood happiness has on the rest of your life, and we look at whether knowledge matters in an age when children have all the information in the world right there in the palm of their hand. While 'The Fourth Education Revolution', written for us by Sir Anthony Seldon, vividly sets out how as educators - whilst being aware of the dangers - we need to seize Artificial Intelligence's tremendous potential.

As Chairman of the Nord Anglia Education Advisory Board, I spend a lot of time thinking about the broader purpose of education.

What are our ambitions for the young people at our schools? What does success really look like in 2030, and how can it best be achieved?

Being the custodians of young lives – whether as parents, guardians, or teachers – means having to decide what kind of people we would most like our children to become.

And while we all want students to be happy and fulfilled, we also need to consider the future into which they are heading.

As I see it, the onus on us is to provide environments in which they can explore future challenges with excitement, rather than fear.

That our planet is approaching a tipping point is no longer in doubt. The issue is whether bright, enthusiastic young minds, working together, will be able to reclaim and restore balance - within their own lifetime.

How can we be sure we are offering our students the ability to prepare themselves for what might prove an awesome task?

Many of the life skills taught at Nord Anglia – resilience, creativity, critical thought – are crucial steps in the right direction.

But, at a more fundamental level, we need to consider how our young people see themselves within society.

Can we help them understand the responsibilities they will inherit as citizens?

Do they realise that the very best of society's ideals can only be achieved when everyone willingly participates?

Do they recognise the complicated dynamic between being a useful citizen and an informed consumer?

If not, it's imperative we help explain it to them, and guide them towards better responses to old and new problems.

In today's world, individual achievement often takes precedence over collective engagement.

All too often we are addressed solely as consumers and can all too easily bequeath that identity as the principal expectation of our children.

With the advent of smartphones and social media, societies everywhere have become ever-more transactional; fulfilment is frequently measured in largely material terms. Information has increasingly become a currency used to buy attention.

Consequently, as consumers, it is more difficult than ever to trust the objectivity of what we see, hear, and read - particularly online.

But, in order to find our purpose as citizens we need to be properly informed.

I would argue that differentiating between these obligations is poorly understood – something I learned at first hand when I was involved in the creation of the UK's Communication Act in 2003.

That was when I first argued that the interests of the citizen were going to be increasingly important in the then nascent digital era; and when such interests were found to be in opposition to those of the consumer, the 'citizen interest' needed to take clear precedent.

Nowhere is the difference between consumer and citizen more important than in the provision of news and verifiable information. And in a world of generative AI, understanding this hierarchy of roles has surely never been more important.

The good news is that there is a growing movement across the world to reimagine institutions, organisations, cities and communities so that citizens have more agency over the decisions that most affect their lives.

Recent expressions of collective determination were seen during the global pandemic, when governments, communities and neighbours came together to protect society's most vulnerable people.

Likewise, families across Europe have opened their homes to war-torn Ukrainians in a remarkable example of a collective will to help.

Nord Anglia's unique relationship with UNICEF represents a perfect example of the way in which ideals can be matched with practice.

We are rapidly moving to the point at which no student will leave our schools without a clear understanding of their relationship with the wider world, along with the impact each can have on the societies in which they live, particularly on those who most need their understanding and support.

As teachers, mentors, parents, and guides, we should take every opportunity to encourage our students to think beyond their immediate ambitions - to see themselves as active participants in their communities - understanding the extraordinary role they will be required to play in the creation of a sustainable future for themselves and their entire generation.

"Being the custodians of young lives – whether as parents, guardians, or teachers – means having to decide what kind of people we would most like our children to become."

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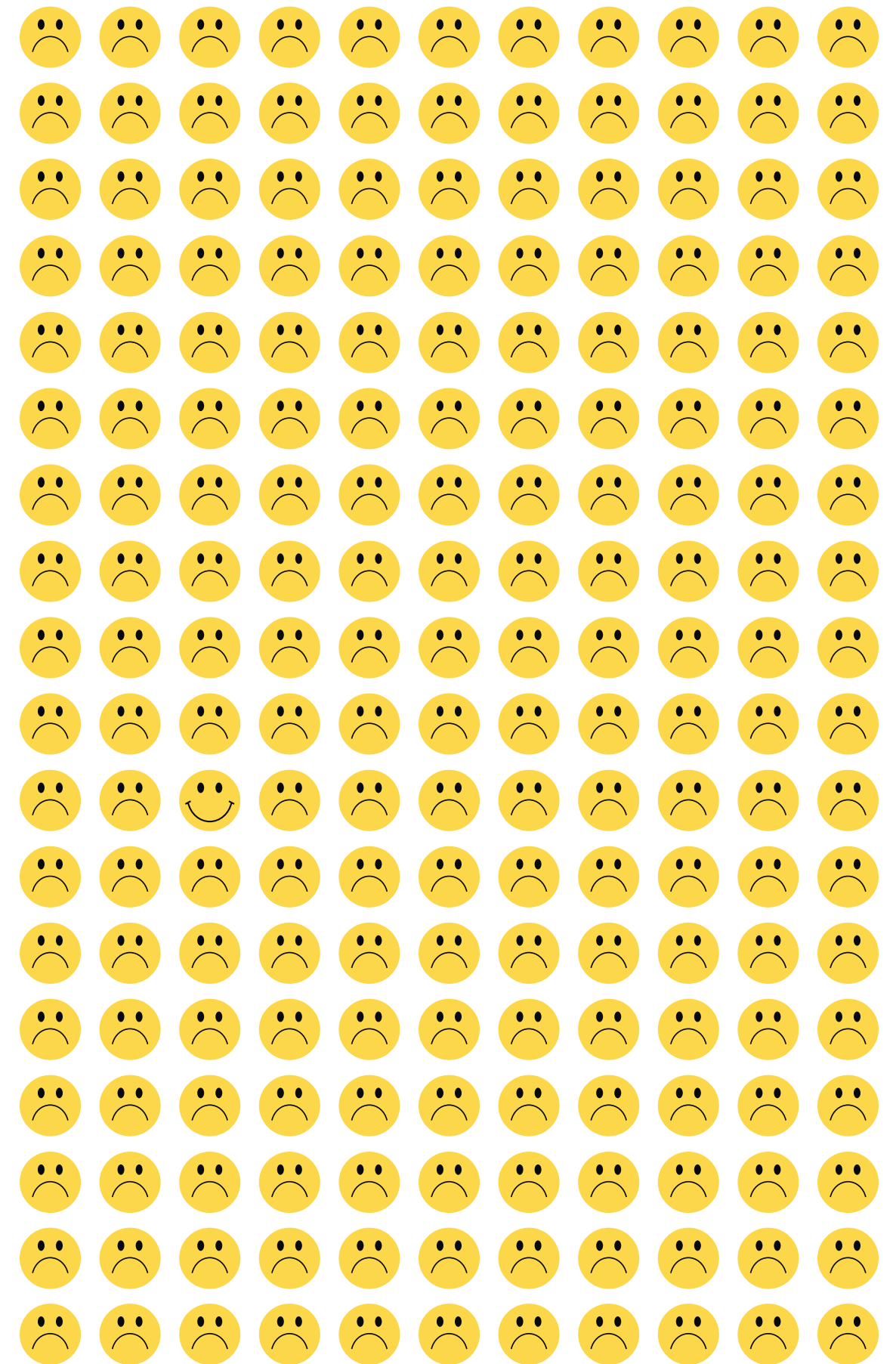
IN PURSUIT OF HAPPINESS

Why it's important that school days are the happiest of our lives

By Zofia Niemtus

What does it mean to be happy, exactly? It's a question that has preoccupied the human mind for as long as thought has been recorded.

Solving the happiness puzzle has been the work of philosophers for centuries. From Aristotle's assertion it must come from a morally virtuous life to Nietzsche's proposal that meaningful goals and struggle should be prioritised.

Unsurprisingly, it is also a question keeping parents and teachers awake at night. What does it take to make a happy young person? UNICEF's 2020 Worlds of Influence report compares the "health, skills and happiness" of children in the world's 41 richest countries, with some thought-provoking findings. Strong links were found between happiness and spending time with family, for example, and playing outside was also found to have a positive relationship to happiness.

The report finds a hugely mixed picture across the globe, with 90 per cent of young people in the Netherlands 'reasonably happy' at 15 years old, closely followed by young people in Mexico (86 per cent) and Switzerland (82 per cent). In contrast, the figures were 71 per cent for 15-year-olds in the USA and 64 per cent for those in the UK. And it is sobering to think that the report uses pre-pandemic data, so the picture now is probably starker.

The inner workings of the teenage brain

"In 2019, we were very worried because mental health problems had already increased a lot in the previous 10 years in young people in the UK," says Sarah-Jayne Blakemore, Professor of Psychology and Cognitive Neuroscience at the University of Cambridge.

"Then, national surveys showed that one in nine 14-year-olds reported having mental health problems. It's now one in six, because it's seriously increased since the pandemic, probably for a variety of reasons, including uncertainty, fear of Covid and the social isolation of lockdowns and school closures."

Blakemore specialises in the inner workings of the teenage brain - her 2012 TED Talk on the topic has been viewed more than four million times - and what makes for a healthy, happy adolescence, or otherwise.

"Being female is also a risk factor," she says. "We don't really know why. It might be something to do with the oestrogen increases during puberty or the social pressures for girls. The higher levels of reported symptoms of poor mental health could partly be because girls are better at expressing their emotions and it's less stigmatising to do so for girls than for boys."

Researchers have also found that academic pressure can play a significant negative role. Blakemore says, "If you ask young people what they find most stressful in their lives, they don't say social media, they say fear of failure and exam stress." They also worry about peer problems, she continues, so good-quality peer relationships (as well as good relationships with family) are protective against mental health problems."

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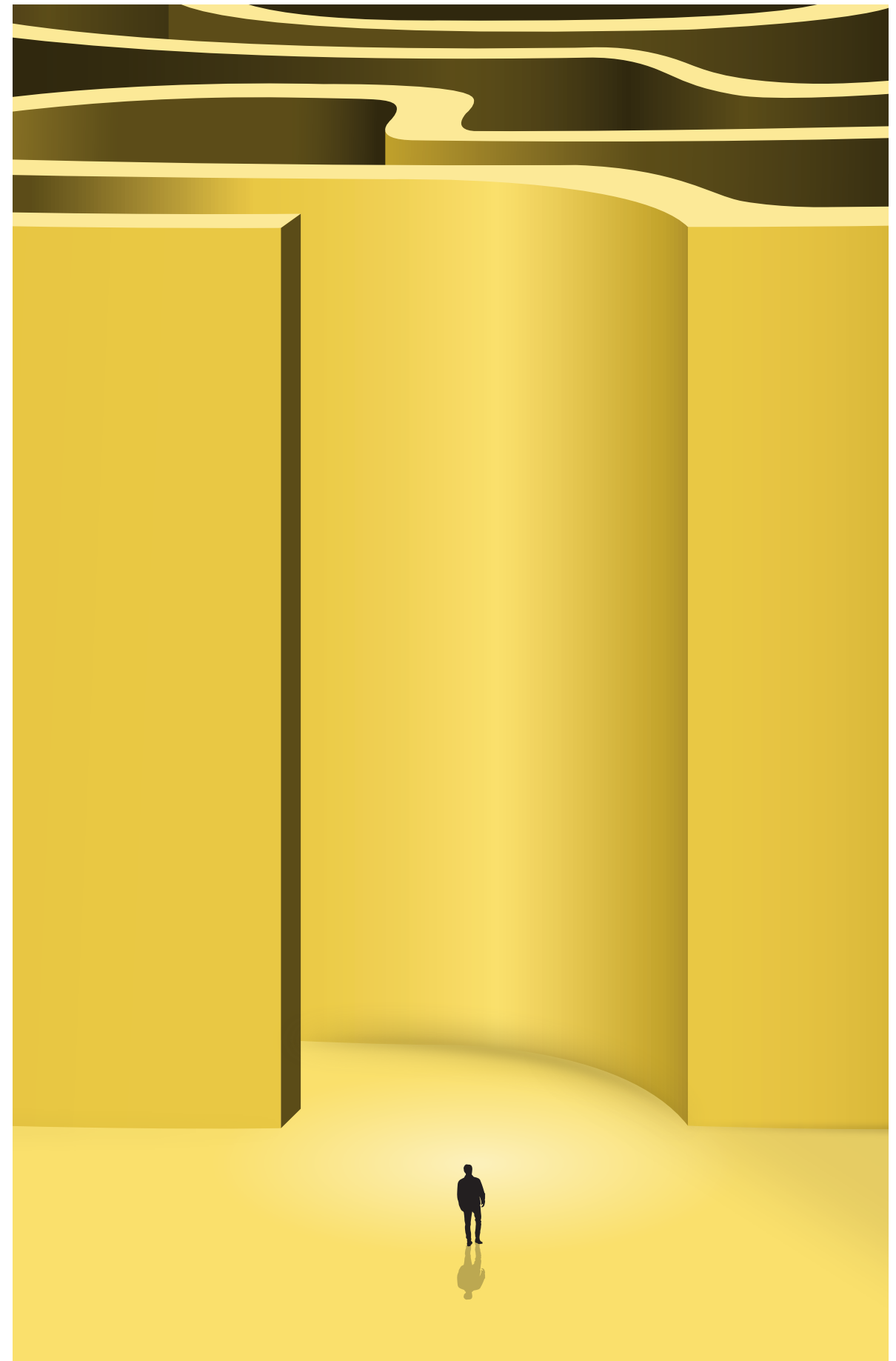
## The Origins of Happiness? "The data is astonishing."

According to Paul Litchfield - a physician, former chair of the What Works Centre for Wellbeing and adviser to several multinational companies on wellbeing - "Emotional health is the most important driver of how young people are going to turn out." The academic side has a place and it is important, but longer term, actually, it's been shown that emotional health has a bigger influence on life outcomes. What happens within the family is the strongest influence on emotional health and wellbeing, but schools are up there.

"Emotional health is the most important driver of how young people are going to turn out."

"That's partly the interaction with other children but it's also the interaction with teachers that can be enormously influential."

It is a point of view echoed by school leaders at Nord Anglia Education, the international education organisation.

"For me, you can't understand happiness unless you have strong relationships and we have a duty of care to find out what makes our students happy," says Sarah Osborne-James, Executive Director of Hamelin-Laie International School in Barcelona, part of Nord Anglia. She adds, "I always look for teachers who are passionate enough to want to
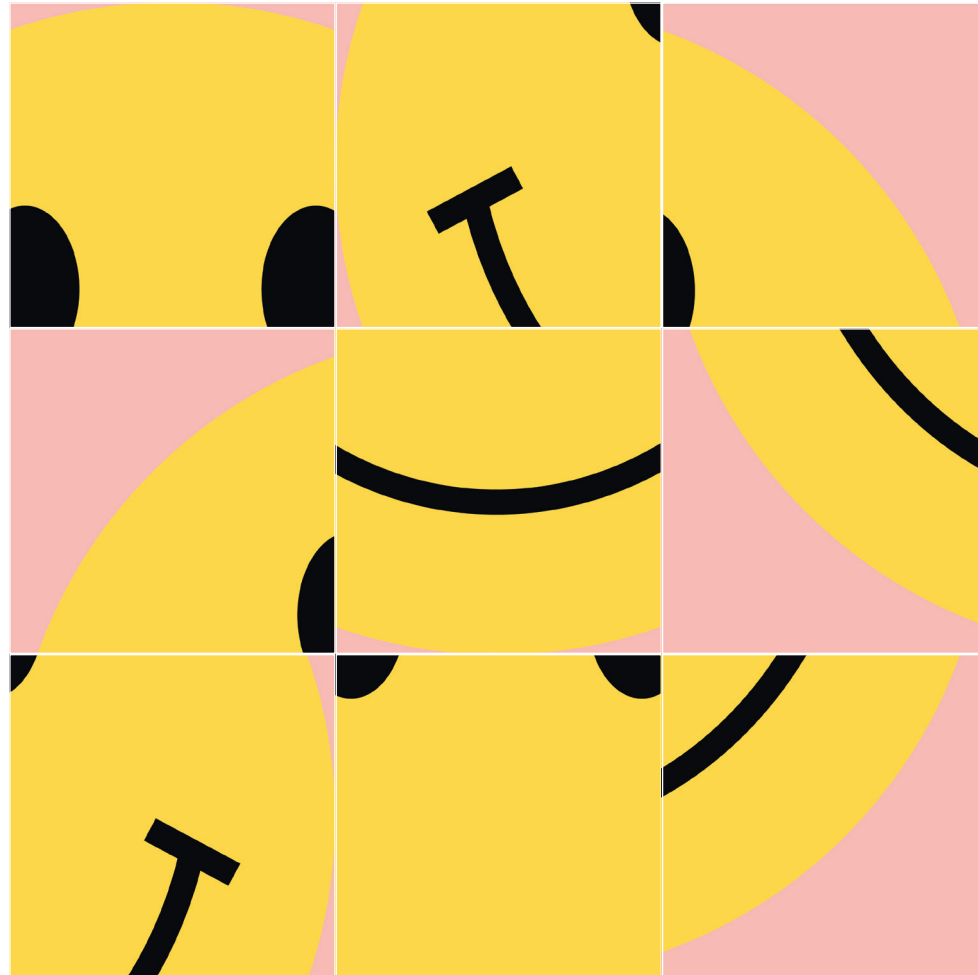
"We showed that if you want to predict whether a person is going to have a happy adult life, whether they're happy as a child is a better predictor than how well they do in their exams."
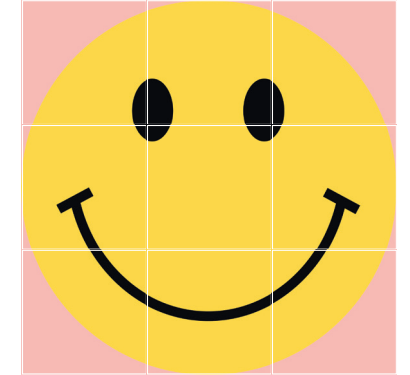
get to know their students on a personal level and have the drive to know what's going to make their students happy.

We carry out student surveys to give feedback to teachers, and one of the questions is around how happy they are, along with questions around trust and being able to talk to their teacher. That sense of safety and happiness is so important for their wellbeing. Added to which, we also know that children learn best when they're happy."

Paul Litchfield highlights the startling finding, in the book The Origins of Happiness, that the value added by the teacher a child had at age 8 and 11 was still influencing them at age 35 in terms of higher education entry and employment.

Economist Professor Lord Richard Layard is one of the book's authors - which looks at the various factors that matter most in happiness throughout life - and said that the link between early teaching and later life "hadn't been expected to come through so strongly."

"It just jumped out, the data is astonishing," he says, citing the finding that the effects of primary schools and even individual teachers have consistently been found to persist throughout the following five years and longer. The research is not clear on exactly which characteristics of these teachers and their classrooms fed into the long-lasting effects, but happiness seems to be a key factor.

"Happiness matters, full stop," Layard continues. "We showed that if you want to predict whether a person is going to have a happy adult life, whether they're happy as a child is a better predictor than how well they do in their exams."

"Schools are meant to be preparing people for satisfying lives so if they can, they should be trying to influence the happiness of the children as well as their academic attainment. And then we have this extraordinary finding that they influence the happiness of children as much as they influence their attainment. So that suggests that this should become a much more explicit goal of schools."

'Happiness means flourishing'

For Rosy Clark, Principal of Nord Anglia's school in Jakarta, Professor Layard's research rings true.

"When we talk about happiness, I don't think that means contentment," she says. "That's not good enough. Happiness means flourishing. We want all our students to genuinely flourish in school, and the relationship with the teacher is all-important in that. It's got to be positive, respectful, caring."

Likewise, she says, recreating a true sense of community among the students themselves was a top priority after the extended lockdown in Indonesia, which saw some "barely leave the house" for over a year.

Clark and her Jakarta team have focused "a huge amount of time on social and personal development," she explains. This included adding daily circle times to the schedule when students returned to school to "readjust to being in a community outside of the home and redevelop those personal social skills" by sharing feelings and listening to others.

"We've since reduced the amount of time we spend on circles but we still keep them as a very valuable part of the daily structure," she explains. And as well as providing the space to "ensure that relationships develop," the circles are now used by teachers to explicitly introduce happiness-enhancing emotional skills.

That sense of connectedness between students will become even more vital for wellbeing as they enter adolescence, explains Professor Blakemore.

"We know that adolescents are hypersensitive to being excluded by their peer group," she explains. "They suffer more than adults in terms of their mood and anxiety if they experience social exclusion." Their drive to avoid social exclusion can result in a higher likelihood of risk-taking behaviour to fit in, she continues.

"We all know that feeling of social exclusion – it's horrible. And it's particularly negative if you're an adolescent, so adolescents are motivated to avoid the lower mood and increased anxiety by being included in their social group."

"Childhood memories shape how you see the world"

Adam Stevens, Principal of Nord Anglia's British International School of Charlotte, explains that his team takes seriously the "duty not just to fill children's heads up with stuff," but to offer a "space to explore how we feel about things together" and thereby equip their young people with skills for life.

"We create a space to help them develop the skills that will allow them to manage life," he says. "We're not teaching them how to cook and iron; those are life skills, not skills for managing life. Skills for life are about how you cope with the world when moments are really difficult and challenging. If you have a way of seeing and understanding how those moments can be worked through, then you're more likely to find happiness and steer away from depression and anxiety, and in extreme cases more likely to not contemplate suicide."

These skills are modelled across the school, including in the way negative behaviours are managed, he continues. Rather than students simply being reprimanded with a time out, detention or exclusion as a punishment, the opportunities presented by mistakes are embraced.

"It's more like: 'Here's an opportunity for you to process how that feels, how that might feel for someone else, how you can empathise with them, how you can begin to find ways to fix this, how you can say sorry with genuine meaningfulness, how you can work to repair something that has gone wrong.' This is a skill for life that we all need."

He says childhood memories of school "shape how you see the world," and so schools should acknowledge that they play a major part in "the formation of the core beliefs and dispositions" that young people take into the world with them. "It is about being able to live a happy, fulfilled and purpose-driven life," he says. "And that comes from ways of thinking."

In The Origins of Happiness, Professor Layard and his co-authors come to a similar conclusion, with their research findings leading them to recommend the explicit teaching of values. "The central question in moral education is 'What kind of a person do you want to be?'...this topic is surely worthy of at least an hour a week in the school curriculum," the authors ponder.

But above all, Professor Layard says, we should be encouraging young people to find their way towards the kinds of futures that will make them happy.

"I don't think we want to encourage all the children to go into finance," he says. "We want them to think about what difference they can make to the world, not just how they will earn an income in it. As soon as children begin to think about how they should be in the world, it should be about wanting to make a contribution."
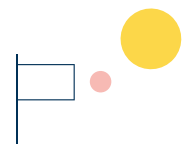
Image created by AI (MidJourney)

THE FOURTH EDUCATION REVOLUTION

By Sir Anthony Seldon

The world over, schools are working to prepare students for the 20th century. Teacher training programmes are preparing teachers for the 20th century. Government ministers across the globe are fixated on exam benchmarks and accountability measures — for the 20th century.

Here in the 21st century, young people are still spending thirteen of their most impressionable and absorbent years honing their minds to do things that algorithms and AI will always do better. AI doesn't get tired, doesn't become unwell, doesn't get emotional, and can process information far faster than any human brain.

Instead of using adult humans to teach young people to be like machines, we need to use AI-powered machines, guided by adult humans, to teach young people to be more fully human.

All of this is being perpetrated by good people who want to do their best but when you are in the middle of a revolution, it can be hard to understand what is going on.

We find ourselves at the start of the fourth education revolution.

Very roughly, the first happened five million years ago with the beginning of learning by watching and repeating. The second revolution, the beginning of organised learning in schools, happened some 5,000 years ago. The third revolution began roughly 500 years ago, made possible by the invention of the printing press. This was also the time of the great global expansion of universities.

"We need to use AI-powered machines, guided by adult humans, to teach young people to be more fully human."

We are living in the twilight years of that revolution. Our current era makes bountiful use of new technologies, but education remains fundamentally the same — students sitting in front of teachers and lecturers, preparing for tests and exams focused on a fixed curriculum on which their future progress will very largely depend.

Schools are still physical places where learning takes place for a few hours each day, for some 40 weeks a year. Just as in the 19th century, teachers, lecturers and books are the primary sources of knowledge. Teacher training is still fundamentally the same as when I went to King's College, London forty years ago.

Until it changes, radically, we will remain in a rut.

We are already engaged with the world of artificial intelligence. This is the fourth education revolution, and it is utterly different from anything we have ever known in history. AI doesn't depend upon constant programming by humans, it learns and adapts itself. Sceptics point out that AI has been around for a long time; we are in the third decade of the 21st century, and it is still quite clunky.

But it won't be by the end of the decade.

Within 10 years, AI will be frighteningly good at communicating with us.

AI will help schools address chronic problems that have bedevilled the third education revolution, particularly in recent decades. Difficulty achieving social mobility can to a great extent be linked to the quality of teaching, particularly in the early years.

"This is the fourth education revolution, and it is utterly different from anything we have ever known in history."

Image created by AI (MidJourney)
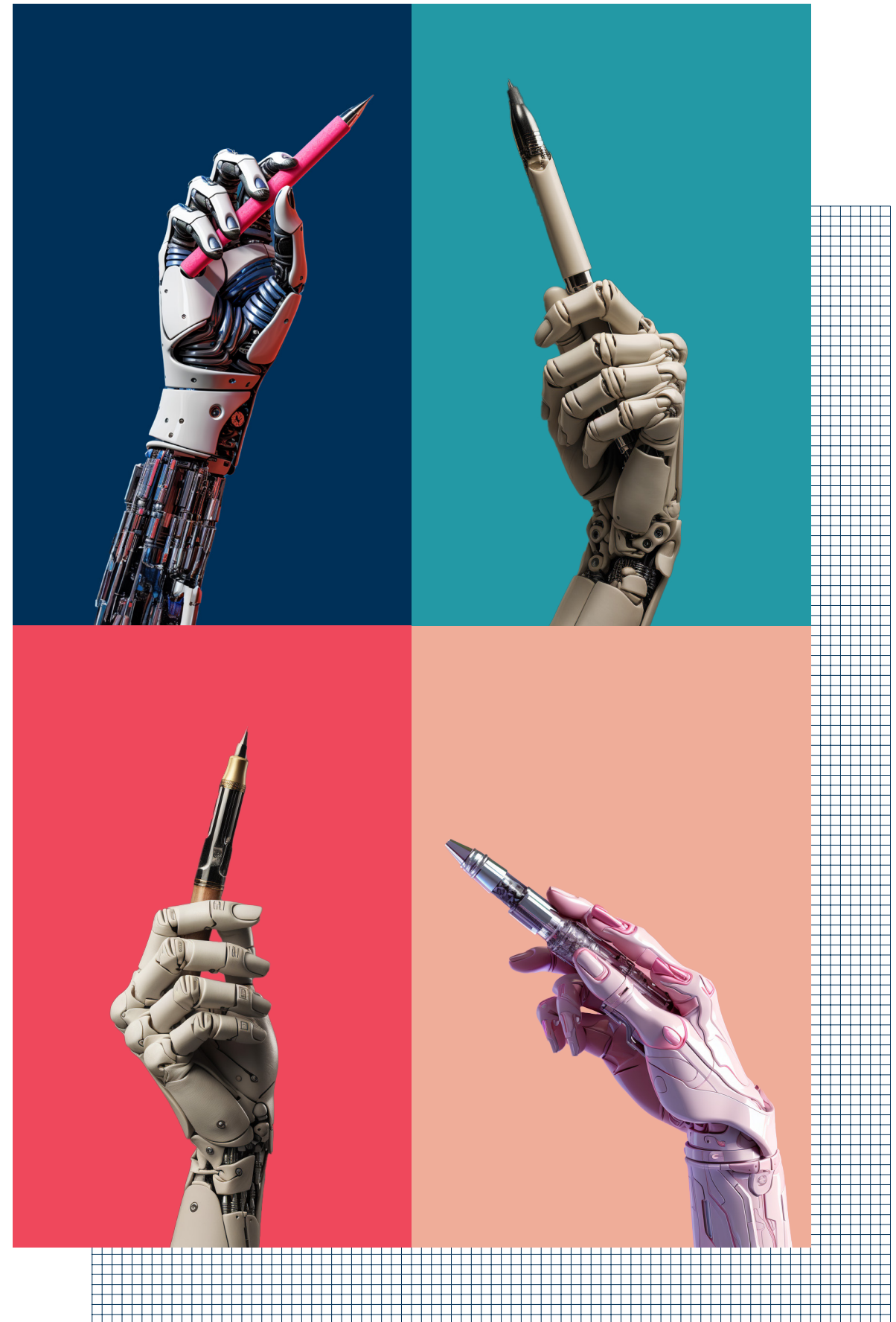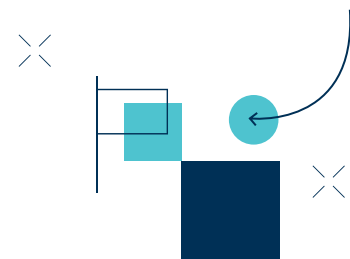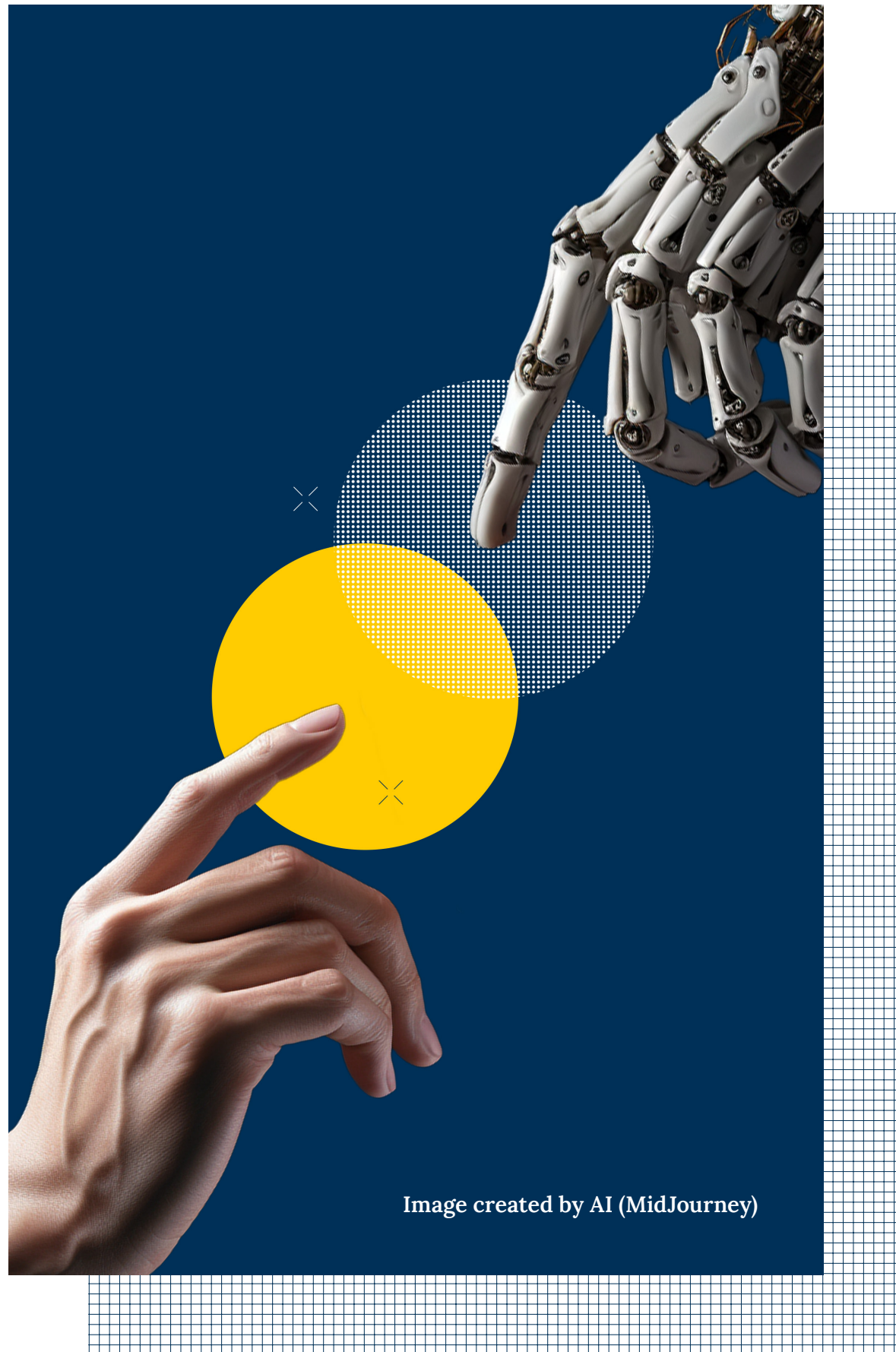
With the benefit of AI every student will receive high quality, personalised teaching, formative assessment and grading. The difficulty of finding an appropriate pace at which all students should progress in all subjects will increasingly be met by the technology, allowing every student to move individually.

Excessive stress and teacher workload, which technology never truly addressed in the third revolution model, will be mitigated when much of the heavy lifting, including preparation of lessons, marking and assessment, is taken over by AI.

This will be easier to achieve in STEM subjects than in the humanities, but AI, with virtual and augmented reality, offers extraordinary opportunities for deeper enjoyment and understanding of the humanities.

Mental health problems have been worsening amongst young people across the world, especially since Covid struck in 2020. One cause is that young people feel valued and validated by the school system solely based on their success at passing exams. Everywhere, schools are better at finding out what young people cannot do, than what they can. The self-esteem of the already vulnerable takes a huge hit. AI will personalise

teaching and tutoring, helping children feel good about their learning, while freeing up time for teachers to spend more time caring for their students.

Finally, AI will help develop all types of intelligence, including creativity, interpersonal relationships and self-knowledge, character, and leadership capabilities. The word "educate" after all means to "lead out", to develop all the talents that young people have, not just cognitive intelligence, on which school systems overwhelmingly focus.

We cannot rely on governments, legislatures, and certainly not EdTech companies, however benign their intentions, to provide the rules and frameworks for our young people. The teaching profession has to take the future into its own hands.
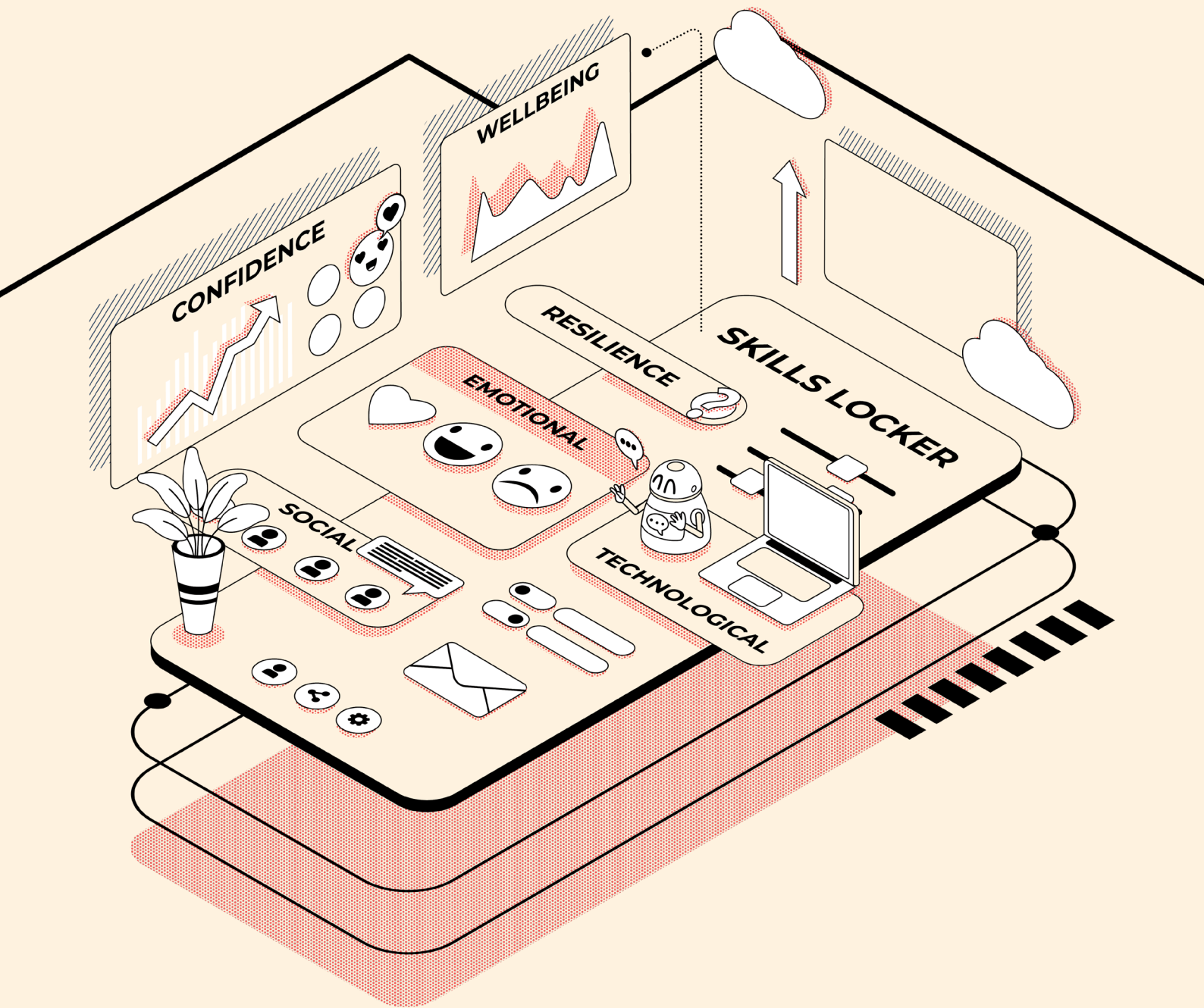
Only the profession itself will understand teaching, learning and young people.

I applaud the work of Nord Anglia Education, which is taking an important lead in the way in which AI can best be utilised in schools and teacher training.

We need champions everywhere if we are to win this race.
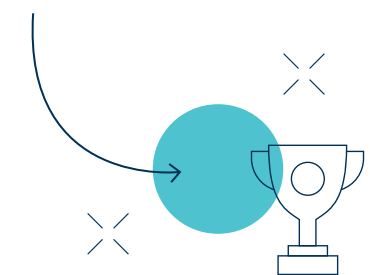
LIFE IN THE
SKILLS LOCKER

AND WHY 'SOFT SKILLS' ARE THE HUMAN SKILLS YOUNG PEOPLE NEED.

By Julie Henry

"Great academics open doors, well-rounded individuals walk through them and thrive," is a phrase that Principal Barrie Scrymgeour has been using a lot lately.

It sums up nicely what is becoming ever more obvious in a world where digital and AI technologies are transforming our lives. What we learn today might be out of date tomorrow, and good test scores are only part of the equation.

"I started teaching in 2000 and I remember having a presentation then about the jobs of the future and getting students ready for roles that hadn't yet been created," says Scrymgeour, the head of the British International School of Houston. "The need to future-proof young people is even more important now."

Soft skills are the new hard skills

Recent research by global management consultants McKinsey & Company looks at the nature of jobs that will be lost, as well as created, as automation, AI and robotics take hold. It suggests that as demand for manual, physical and basic cognitive skills declines, the value of technological, social and emotional, as well as higher cognitive skills grows.

On the back of this, the company has devised 56 "foundational skills and attitudes" that will "help citizens thrive in the future of work."
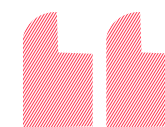
"As demand for manual, physical and basic cognitive skills declines, the value of technological, social and emotional, as well as higher cognitive skills grows."
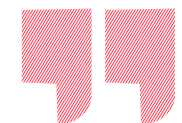
While something of a wish list, it is illuminating. If we displayed all of these skills and characteristics all the time, we would be superhuman.

Under the four headings of cognitive, interpersonal, self-leadership and digital are attributes such as logical reasoning, time management, active listening, creativity and imagination, empathy, inspiring trust, resolving conflicts, integrity, self-motivation, and programming and data literacy.

Surveying 18,000 people in 15 countries, the researchers found that higher scores in these proficiencies equalled higher incomes and levels of job satisfaction.

Being 'book smart' isn't enough

What the research points to is a growing imperative on schools to help children develop a locker of life skills to give them the solid foundations they need to thrive, both professionally and personally. It's a thread that runs through teaching and learning at Nord Anglia Education's schools. What companies used to casually refer to as 'soft skills' are now fundamental for children to develop so they are able to deal with everything life throws at them.

The British International School of Houston takes as its starting point the International Baccalaureate (IB) learner profile, which develops attributes that go beyond academic achievement. It aims to nurture students, and indeed staff, who are inquirers, knowledgeable, thinkers, communicators, open-minded, caring, risk-takers, balanced, reflective, and principled.

"These are key behaviours that we want students and staff to model," says Scrymgeour. "Being principled, having the right core values, pride, unity, respect, thinking critically and reflecting on your own assessment of risk."

The school's house points system rewards these behaviours, building them into the fabric of the institution. Staff regularly check which learner profile characteristics are generating the most points, as well as those they need to boost through the curriculum, registration, assembly and other areas of school life. Coding is also taught from reception to give children a head start in the tech skills that the McKinsey research highlights as increasingly vital.
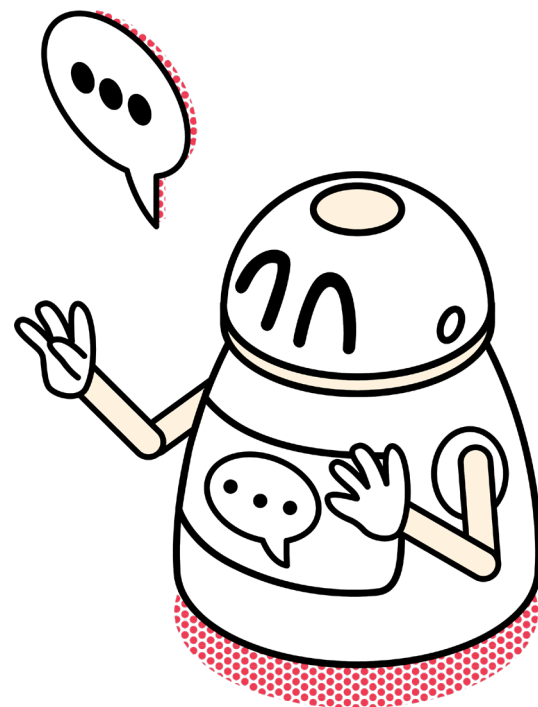
Why STEM became STEAM

At Regents International School Pattaya in Thailand, critical thinking and creativity are intertwined with technology through its STEAM initiative. The "A", among the more familiar acronym for science, technology, engineering and maths, stands for "arts".

"Arts isn't just about students painting or making a piece of sculpture," explains Nicole Sargeant, the school's Head of Innovation, "It's the application of creativity, which could be anything from performing arts to the art of combining maths, science and programming language to make a robot move."

Part of this strategy is a Nord Anglia Education-wide collaboration with the Massachusetts Institute of Technology (MIT) in the US, where professors from the top-ranking university set challenges for students across schools to solve real-world problems.

In a recent challenge, students at Regents were tasked with tackling the impact of extreme weather events caused by global warming.

"Because we're in Thailand, students looked at flooding, which is a real problem here," says Sargeant. "Year 8 students had to work in teams, do the research together and come up with a solution for surviving floods in Pattaya and Bangkok. They made prototypes, floating houses and floating cities. Some made digital prototypes, using iPads to create 3D images using CADs, displaying their results in virtual or augmented reality. Others preferred to make physical models in a variety of materials."

Students were allocated to a group and had to work to a deadline and within a budget. They presented their work to a panel, which included the principal and the heads of science and geography. Part of the task was to reflect on the issues that would arise if their $10 solution was upscaled on a budget of, say, $10 million.

"It's all about collaboration, teamwork, creativity and building confidence," says Sargeant.

In the end-of-project evaluations students are asked what aspects of the project they found the most challenging. The same three things come up every time; pupils want a bigger budget, more time, and to work with their friends.

"I never change these aspects of the project as these are challenges the students will have to deal with in any future career - they need to be able to think on their feet, think critically and know how to be creative with the resources they have available to them," says Sargeant. "The more exposure to these kinds of projects, the more prepared students are for the future."

'Lean into the future'

This practical approach to developing capabilities, mindsets and skills is one that employers want to see more of, according to Aishat Ola-Said, Global Early Careers Manager at digital infrastructure giant Colt Technology Services, which works across the US, UK, Europe and Asia.

"So much of our work revolves around 'this is the problem, how do you solve it, and can you present your solution to me so I can understand it?'" she explains. "It involves critical thinking, problem solving, communication skills, confidence, an eagerness to learn and the ability to engage, persuade and motivate."

For Ola-Said, it is the soft skills - "the human skills" - that become more important in a continually automating future.

"If I think about when we hire for potential, what we are looking for are people who, as the world evolves, see it as an opportunity rather than something to be scared of," she says. "How are we helping young people to develop those capabilities in the first 18 years of their lives, so that when they leave school they're not starting from ground zero?"

It's a question that can be posed to parents as well as to schools. Are we helping our children develop the right mindsets in an era when doom-laden predictions about the catastrophic impact of AI are splashed all over the front pages?

According to Dale Gall, the founder of AdaEdTech and former CEO of MullenLowe Group UK, we need to encourage our children to lean into these technologies.

"It's hard being a parent but it's as important to encourage these mindsets as it is to worry about exam results; in fact, it's even more important," he says. "It is very easy, and I've done it myself, to generate anxiety around AI: 'What jobs are going to be out there? What is going to be done by robots?' We've all heard the statistics that 65 per cent of roles will no longer be there. But what we need to do is encourage our children to see these technologies as opportunities. If we generate fears around them, people will lean out rather than in."

Embracing technologies to make our working lives easier is the way forward, Gall insists. Tech enables us to look for shortcuts and efficiencies. Rather than think of these things as dangerous, we should use them. And despite the hype around AI and machine learning, there are still so many things tech can't do that human beings can - as anyone who has had to communicate with a customer service chatbot will know.

For Gall, keeping pace with the tech requires agility, lifelong learning, the ability to prioritise, recognise what matters and know when to compromise, a mindset of "balanced optimism" and leaning into your strengths.

At IMG Academy, a unique boarding school for young athletes in Florida, in the US, this kind of personal development is on the timetable. IMG Academy is also Nord Anglia Education's global sports and wellbeing partner, providing its expertise to the group's schools and students around the world.

As part of their mental performance development, students are assessed in five key areas - coachability, confidence, focus, resilience, and handling pressure. These skills are vital for high-level sports but are equally bankable in pretty well all other walks of life.

"These are all trainable and transferable skills," says Dr Taryn Morgan, VP of Athletic and Personal Development. "We can build students' confidence and resilience and teach them how to handle pressure, whether through breathing, imagery or self-talk. Time management is another vital skill - balancing academics, sports training and competition - and being independent enough to cope with conflicting demands on your time. We're teaching students ways of working that help them across the whole of their lives - from school to college and into their jobs and professions."

With student athletes from all over the world, sociability - another one of McKinsey's 56 foundational skills - is also part of the mix at the academy, and at international schools more generally.

"The ability to interact with different people is such an obvious factor that I think gets overlooked," adds Morgan.

But what do Gen Z themselves regard as the most vital skills for success, both in the world of work and in their personal lives?

Top of the list for 18-25 year olds in the USA, UK and India is confidence, according to independent research commissioned by Nord Anglia Education. Young people want schools to focus specifically on helping them to build the confidence to take risks and seize opportunities.

Related to this is resilience - cited by 45 per cent of respondents as being the ability to bounce back if those risks and opportunities fail to pay off. Up there too, are problem solving, critical thinking and wellbeing.

It seems, then, that Gen Z, parents, schools and employers are more or less on the same page when it comes to the most important components of the life-skills locker - a consensus that bodes well for the future.
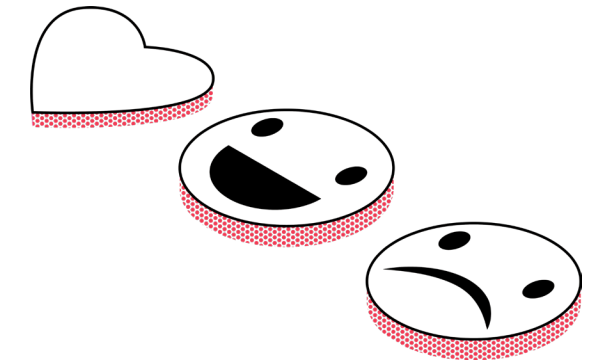
"The pace of change in the modern world is so rapid and we all have to respond to that reality," says Aishat Ola-Said, from Colt Tech. "What companies are looking for are recruits who are pulling you into the future, not people who you have to push there."

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KNOWLEDGE IS POWER?

WHEN CHILDREN HAVE ALL THE INFORMATION A CLICK AWAY, DOES HAVING KNOWLEDGE MATTER?

By Julie Henry

School work, as we can all testify, entails "remembering stuff". But in a world where facts are a click away - and where generative AI, such as ChatGPT, can supply a comprehensive essay nearly as quickly as it takes to recollect the aide memoire - why bother committing these facts to memory at all?

The cultural shift away from memorisation has, arguably, already begun; one international study found that 40 per cent of people automatically reach for Google before trying to remember information and a quarter forget the answer straight after reading it.

Generative AI's ability to produce rapidly packaged knowledge is already being harnessed across education and work. Of course pupils still need to remember things to pass traditional exams but that demand aside, is the endeavour of committing knowledge to memory essentially pointless in a world where AI can do it for you?

Spoiler alert. ChatGPT isn't the answer.

Not according to Dr Rebecca Gordon, from University College London's Centre for Educational Neuroscience. "Is memorising facts still important, even when you can Google and AI it? The simple answer is yes; it is very important, and for a number of reasons."

Let's take the example of learning the times tables.

"You don't want to have to count two plus two on your fingers," she says. "Instant recall acts as a foundation on which to build more complex knowledge, reducing your cognitive load. In calculations with numerous steps, if you have to use a calculator to work out what seven times four is, you are forced to pause to work out a side calculation while holding the main question in your head. Who wants to do that?"

> *"Is memorising facts still important, even when you can Google and AI it? The simple answer is yes; it is very important, and for a number of reasons."*

Knowledge. It's the basis for more complex thinking.

So, recall of embedded knowledge helps to reduce the demands on our limited working memory. It also gives us the foundational basis for more complex thinking.

But while learning and memorising information is necessary, it is not sufficient. If you only teach children the formula for mass without applying it, it is essentially meaningless.

"When you use that formula to work out that ice is less dense than water, you realise that it is very important in environmental science," Gordon continues. "Ice floats on water so it insulates the water underneath, which is important for life. You build onto that the impacts of climate change if the ice melts."

Metacognition and the critical thinking 'endgame'

In the various education theories that trainee teachers study, and which influence what goes on in the classroom, one of the most important questions has always been what constitutes "significant learning".

"Students have to be able to memorise to some extent but what comes above that in most theories is comprehension, application, analysis, synthesis, evaluation and creation," says Dr Marguerite Müller, a lecturer in education and society at King's College London. "On the one side is foundational knowledge and, in equal measure, we need application, engagement, critical thinking and integration - the idea that we can connect ideas, relate our learning to real life and think about how to advance our own process of learning."

All these elements come together in the International Baccalaureate (IB), which is taught in many of the Nord Anglia Education schools worldwide. Through the Theory of Knowledge component of the IB Diploma, students are taught to think about how they gain knowledge, how it is interpreted, and how and why knowledge is used and manipulated. And at the heart of Nord Anglia's educational approach is helping its students become critical thinkers.

For Andrew Lancaster, Principal of The British International School Shanghai, Puxi, critical thinking is the endgame.

"It's not just about committing facts to long-term memory, although this is important for IGCSEs and the IB Diploma," he says. "Equally important is understanding what you've learnt and the connections between banks of knowledge, the ability to research and work collaboratively and creatively, being a good communicator and developing evaluative skills."

Also central to the IB is metacognition - an awareness and understanding of one's own process of learning. Nord Anglia is busy leading new studies into metacognition to help its students understand how they learn best.

Dr Kate Erricker, part of the Nord Anglia team leading its research, explains.

"A student who is 'metacognitive' can draw from a toolkit of strategies so they're able to understand complex information, structure and sequence tasks, connect the dots between sources of information, and respond creatively to make something new and original. When students are metacognitive, they find solutions rather than passively observing situations."

"Our research is centred on helping students understand how developing their metacognition supports their growth – academically, socially and personally – so they'll graduate with outstanding academic outcomes and also better understand themselves as learners. This last part is such an incredibly valuable skill for life - knowing how and why you learn best."

Andrew Lancaster continues, "We're supporting students to become independent learners, whether that's exploring how best to embed knowledge and remember things or what works best in group work or individual research. Students will have their preferred methods and teachers are supporting them and helping them to reflect; how did it work for you? What other strategies can we try?"

Lancaster also makes a strong case for the sheer love of learning and "knowing things".

"There's a real joy in that," he says. "Children love to come home and tell their parents what they've learned in lessons, or relay to their teachers what they have mastered. I love that aspect of it and that is the classroom teacher's craft - being able to harness that enthusiasm, energy and passion from young learners and take that forward and develop it in partnership with them."

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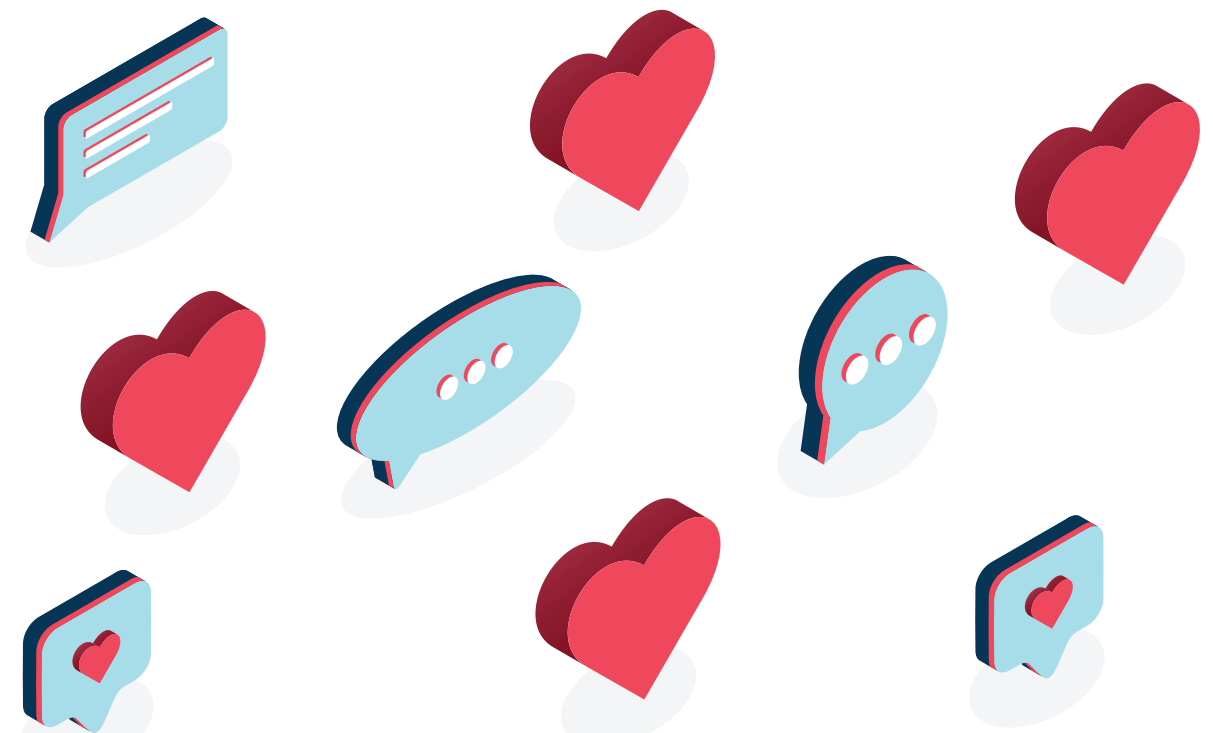
Fake news or real news?

Growing these capabilities has never been more important than in the present era where young people face a 24/7 maelstrom of information - and misinformation.

"If I look at my own children and their process of learning, they're bombarded with information day in and day out," says Dr Müller. "I think all of us are increasingly jumping from one small piece of information to the next. It's not like 20 years ago when you could sit and read a text for an hour."

In this landscape, the question may be less about children's ability to remember and more about the skills they need to evaluate the surfeit of information raining down on them - indeed on all of us. How do we sort through it? What is relevant and what is not? How do we recognise the difference between quantity and quality?

Helping pupils to develop their "fake news detector" so they can become "thinking global citizens" is part of the Theory of Knowledge component at Nord Anglia's St Andrews International School, Bangkok.

"It's not just about passing on the canon in any particular subject. If we want the world to be a better place students need to be engaged and able to use knowledge," says Roo Stenning,

Head of the High School at St Andrews. "When students see the front pages of newspapers and on one side, there's a story about fires on the Greek Islands and on the other, there's a story saying 'maybe this green stuff has gone a bit too far', they need to realise that something is afoot and to think critically about it."

According to Yasmin Nassif, Principal at Amman Academy in Jordan, knowledge and critical thinking go hand in hand and both are essential in a world where information is bottomless and often contradictory.

"Whatever information students are able to utilise from AI and search engines, it'll mean nothing if they don't really understand and remember the knowledge they're learning. You can't look up facts that you don't know exist or assess information in a vacuum," she says.

For her, the challenge is striking a balance between skills-based and content-driven learning to give students the transferable skills to actually make use of what they know.

"We're looking at lean management in business, for example. We studied its application in the automotive industry but students will now be applying the knowledge they have learnt in completely different contexts," says Nassif.

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Agile learning. It's a thing.

This "agile learning" that Nassif describes is what employers are looking for, according to Nigel Sullivan, Chief People and Sustainability Director at healthcare provider and insurer Bupa, where competency-based recruitment is the order of the day.

He fears that a general reliance on knowledge in education almost in isolation to skills is hampering students' job prospects.

"Being collaborative, working in a team, setting and achieving goals - all this is super important to employers," he says. "They're not interested in whether you know all the kings and queens of England. Who'll benefit from you carrying around that information with you in life or in employment?"

Healthcare is clearly dependent on the knowledge of clinicians who have been trained in education systems around the world and Sullivan is clear about the need for "deep experts": "You don't want dentists poking things into people's mouths who don't know what they are doing," he adds. But in other areas of its business, it needs recruits who can, more importantly, work in teams, think creatively, make decisions and be agile in their learning.

Knowledge, yes - but context and application are everything, which comes neatly back to what Nord Anglia's schools champion.

When Sullivan was at school, he was baffled by quadratic equations until he understood how they could be applied in science. In that light bulb moment, they were "no longer just numbers on a page with no meaning". Similarly, his love of WB Yeats has been enhanced by learning about the political context in which his poetry was written.

"It is this kind of exploration that develops the intellectual curiosity and reasoning that helps to solve problems," he says, "not memorising lists of facts and buzz words in order to get marks in an exam."
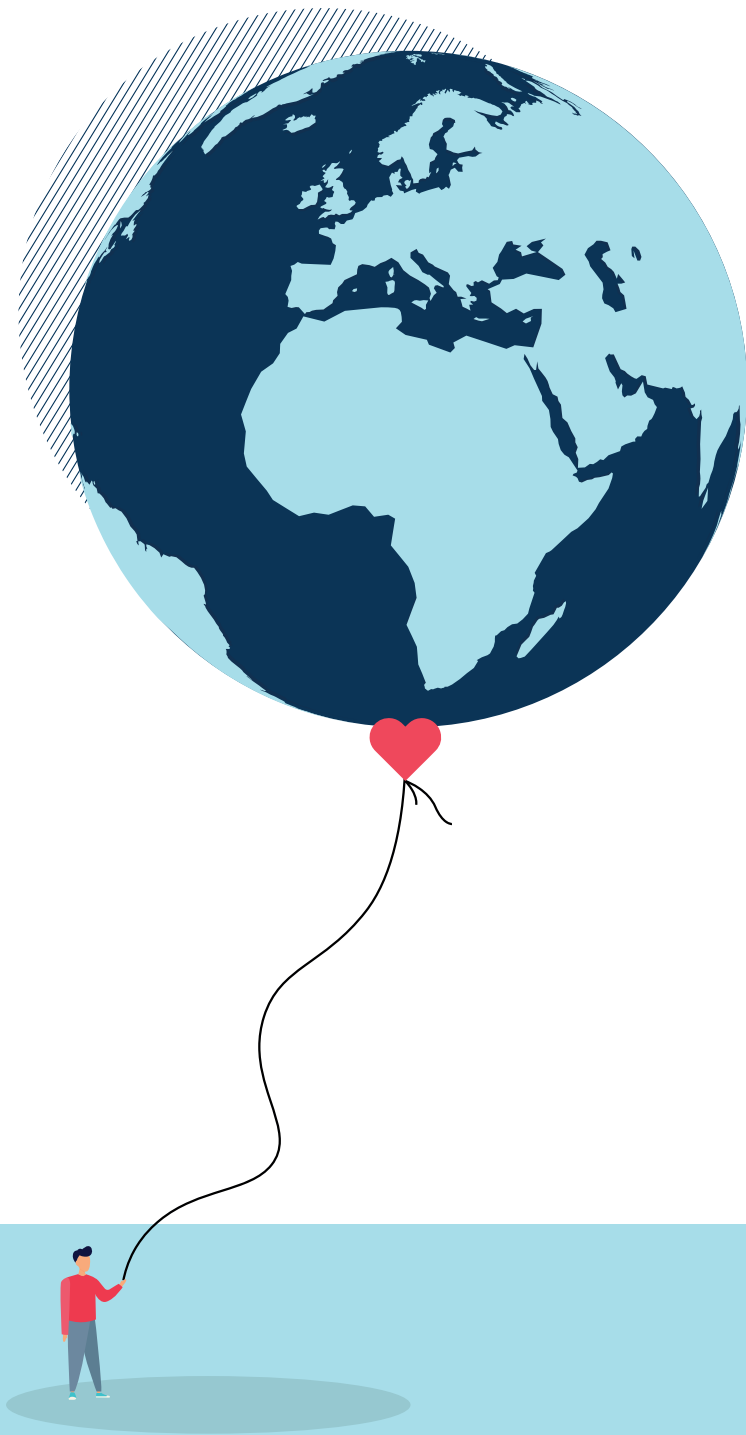
The challenge, then, is leveraging our knowledge-based education systems to foster the critical thinking skills that our students need - and that will be crucial in tackling the huge global concerns we are all facing.

> "Being collaborative, working in a team, setting and achieving goals - all this is super important to employers."

SOCIAL PURPOSE.
REAL WORLD VALUE OR VIRTUE SIGNALLING?

DOES TEACHING CHILDREN ABOUT 'MAKING A DIFFERENCE' MAKE A DIFFERENCE?

By Zofia Niemtus

From Insta-worthy 'voluntourism', to corporations obsessing over ESG (environment, social and governance) ratings, you could be forgiven for sometimes feeling like everyone is preoccupied with appearing to do the right thing, rather than actually doing it.

But Generation Z may be changing that. A recent Deloitte survey across 44 countries found that seven in 10 are "actively trying to minimise their impact on the environment," while research from Edelman found that 70 per cent of Gen Z are involved in a social or political cause. But how should this intersect with education? Can schools explore social impact in a meaningful way? And should they?

Georgia Scarr certainly thinks so. She is currently studying earth systems science at Stanford University, but is also Co-Founder and Executive Director of Eco Circle International (ECI), a 100 per cent youth-led non-profit organisation that trains young people to be leaders and activists. Her story began at the British International School of Chicago, part of Nord Anglia Education.

"It started in year nine, after the Parkland shooting," she says. "Me and some other students organised a walkout for anti-gun violence regulation. After that, we started hosting assemblies and things, and expanded into different social justice issues, particularly homelessness and gun violence, big issues in Chicago. And the school supported us by giving us the platform.

It showed that we could make change and allowed us to directly make an impact and get so many different students involved," she continues.

Launched in 2020, ECI now turns out around 200 fellows per year, after they have completed two months of environmental education, one month of leadership training and two months of initiative planning and execution.

"We're educating young people and telling them to focus on their communities and identify issues there, using the tools and skills they have developed to create change," Scarr says.

More action. Less talk.

Dr Leslie Williams, Senior Programme Lead for social impact and giving at Nord Anglia, says this approach encapsulates the international education group's vision to "equip students with the skills and resources to amplify their voices and make a local and global impact."

She explains the three pillars of social impact at Nord Anglia: developing student leadership skills; a global collaboration with UNICEF; and a programme of grants, which offers up to $50,000 in funding for student-led social impact projects tackling the UN Sustainable Development Goals.

Grants have been awarded to many projects, including a rewilding programme in Budapest, a community project helping underserved young people in Florida, and student-led support for displaced Ukrainian families in Prague and Warsaw.

"It's easy to tell students that you believe in them," Williams says. "But when you put money behind their ideas, and then expect them to come up with budget and implementation plans and create impact reports, it becomes more than that."

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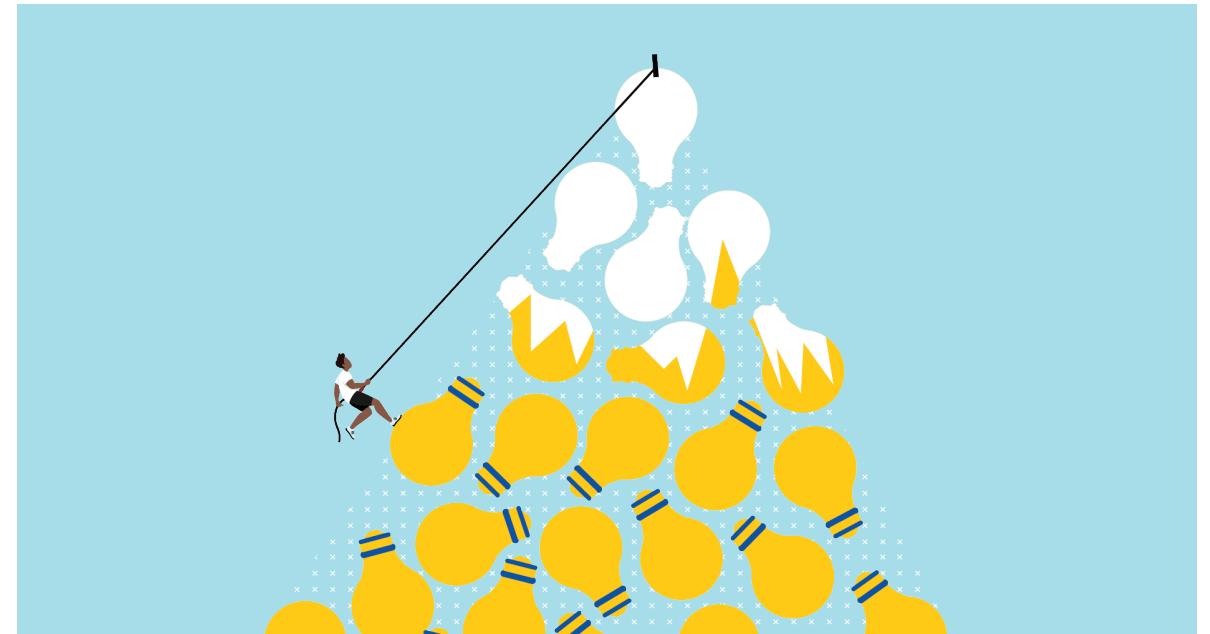
Dr Jane Gaskell is the member of Nord Anglia's Education Advisory Board who oversees the social impact programme. She explains that, when undertaken in the right way, such work can reshape young people's understanding of their world.

"We don't want them to be passive in the face of the things happening around them," she says. "We want them to have a sense of empowerment, that this is their world and that they can do something. They have to feel engaged with what's going on, otherwise you can get kind of pushed around by the world."

And, she continues, there's also a clear link between mental health and social impact.

"People who have a sense of efficacy tend to be mentally healthier than people who don't. Of course, everybody's power is limited and we shouldn't put the responsibility for solving everything on the kids. But it's powerful when they can sense that they're part of a team and that they can collaborate with other people."

"The skills they learn - whether that's from reaching out to a community of people very different from themselves or budgeting for a project - give them the ability to make a difference. And those skills are going to serve them well, not just in social impact, but in jobs, in families, and in all kinds of other ways."

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Big ideas. Big impact.

That was the experience of Kisum Chan, who attended Nord Anglia's British International School in Ho Chi Minh City before going on to found social enterprise Rice Inc while at university in London. While Chan was studying for his biomedical sciences degree he came across the Hult Prize, which offers $1m and a chance to pitch at the UN. Chan and his friends "brainstormed through the nights" before winning with their idea to improve access to drying technology for farmers in Southeast Asia, reducing rice crop wastage (which can be up to 30 per cent otherwise).

Since its inception in 2017, Rice Inc has saved somewhere in the region of 10 million bowls of rice that would otherwise have been wasted, and Chan says the social impact focus of his school days helped shape his global view.

"There's this proactiveness to get the students to contribute to society," he says. "And I would like to see even more proactiveness in encouraging students to really think outside the box, to not just take programmes that have been already established, but to create their own, to champion their own destinies and work on things that they care about."

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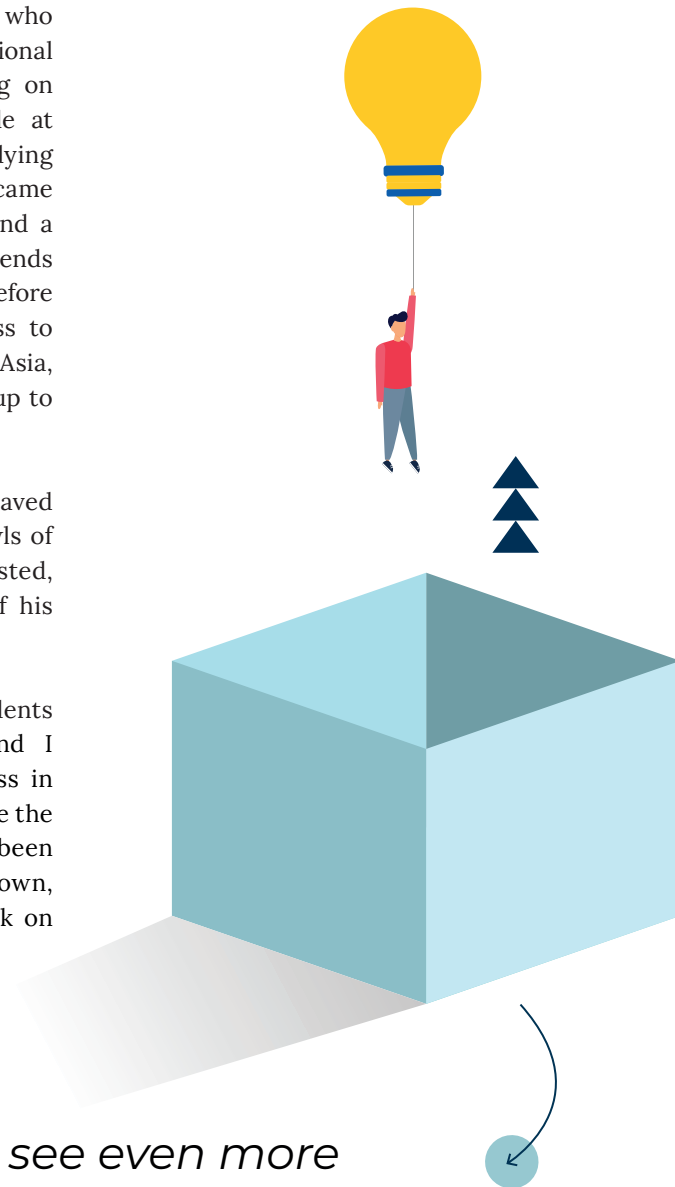
Nishma Shah, Senior Sustainability Leader at Legal and General, the global financial services company and investor, says that this demand for authenticity and meaningful commitment to social impact is also being heard as young people move into the world of work.

"There's an increasing amount of research that shows that Gen Z are demanding more from their employers," she says. "And we see that every year, that shift. That demand continues to increase, with the younger generation asking: 'What are you doing in terms of the environment? How are you making change? And what can I do?' That's the other thing, people don't want to just know what their employer is doing, they want to know what they can do to contribute as well. And I definitely see that coming across more and more each year.

Sustainability is about how businesses are run, making sure that you're not taking more than you're giving back, from the planet or from people." This means, she continues, taking "a really proactive role in the social and environmental elements of the societies that you're operating in."

At Oakridge International Schools in India, School Director Amit Jain says sustainability is a big focus among the school community, too. "In 2016, we held our first ocean conservation conference, which was an inter-school conference, organised by the students for the students," he explains.

The students heard a "phenomenal" speech from Jason Lewis, an adventurer and sustainability campaigner who was the first person to circumnavigate the globe by human power. He talked about his experiences on the oceans, including being 2,000km from land and seeing what appeared to be a jellyfish, but later turned out to be a plastic bag. The students were deeply inspired, Jain recalls, and came up with "a set of recommendations and actions that were submitted to the local authorities" to feed into work on protecting their beaches and wildlife

from waste plastic. Fast forward to today, and the project is continuing to go from strength to strength.

"As a school, we've just been facilitators," Jain says. "This is what our students wanted and they're passionate about saving our beaches, healing our oceans. It's the essence of sustainability in action."

It's too important. Education plays a powerful role.

With such motivation and commitment evident among students, it's perhaps not only possible for education to intersect with social impact, but vital that it does so. And in these difficult times - in a world facing a climate crisis and increased division - the challenges facing young people are arguably too important not to explore in school.

Dr Mark Starbuck, Principal of the Metropolitan School of Panama, thinks that the "job of school leader is sometimes to just bring people with ideas together."

"I'm trying to give people the opportunities to come up with policies, initiatives and ideas, and the skills and knowledge to lead projects and take ownership of them," he says.

For Starbuck, it is vital that social impact is not reduced to "raising money from bake sales and making charitable donations."

"That's really boring," he says. "A hands-on approach is far more meaningful and it helps students to develop more empathy. They can actually see their impact, and that touches them.

If they're Nord Anglia students, we're assuming they'll go on to become leaders. And whether they go into business, government, sports, music or the arts, they should be thinking about social impact. It should be in their DNA, developed at school, giving them a sense of social purpose and connection with the world around them."

ABOUT NORD ANGLIA EDUCATION

As the world's leading premium international schools organisation, we're shaping a generation of creative and resilient global citizens who graduate from our schools with everything they need for success, whatever they choose to be or do in life.

Our strong academic foundations combine world-class teaching and curricula with cutting-edge technology and facilities, creating learning experiences like no other. Inside and outside of the classroom, we inspire our students to achieve more than they ever thought possible.

No two children learn the same way, which is why our schools around the world personalise learning to what works best for every student. Inspired by our high-quality teachers, our students achieve outstanding academic results and go on to study at the world's top universities.

To learn more or apply for a place for your child, go to www.nordangliaeducation.com.

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