Issue 46, December 2025

Cambridge Outlook

The magazine for Cambridge schools worldwide

Education for a changing world

Inside:

- Teaching with or without AI
- The hidden depths of A Levels
- Why teachers' emotions matter in leading change

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Issue 46, December 2025

Ready for a human-centred future

Across the world, education systems are being reshaped to meet the demands of a rapidly changing world as governments rethink how young people learn – and how well that learning prepares them for life. The pace and scale of reform – from China's integration of artificial intelligence (AI) into teaching, to England's new 'skills for life and work' curriculum, to Kuwait's sweeping digital transformation – show how deeply technology and associated employability currently influence educational priorities.

At Cambridge, we share this spirit of renewal. Our new report, Preparing Learners to Thrive in a Changing World, explores what it truly means to be 'ready for the future'. One key finding is that self-management is seen by both teachers and students as critical for success – but also as the hardest skill to teach and to learn. Technology plays a central role in this challenge: while it supports learning in powerful ways, many students fear distraction and over-reliance, and for 70% of teachers, digital distractions and reduced attention spans are among the challenges technology poses in preparing students for the future.

Used thoughtfully, technology empowers rather than overwhelms. On page 10, teachers describe how they are integrating AI into their classrooms. Yet as we embrace AI's benefits, we must also remember that human intellect, experience and understanding remain at the heart of great education (page 8). As discussed, subject knowledge and skills are more vital than ever in the world of AI, and on page 14, we show how Cambridge International A Levels deliver both.

Reform depends on people as much as on policy. As explored on page 6, teachers' emotions and wellbeing are fundamental in leading change. When teachers feel supported and valued, reform becomes something that happens not *to* them, but *through* them, driving lasting improvement.

Whether through greater teacher autonomy in Indonesia, curriculum reforms in Vietnam, or innovation in schools everywhere, the goal remains constant: to help students prepare not only for the future they will face, but also for the one they want to create.

Rod Smith, Group Managing Director, International Education

Ready for the world.

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Any feedback on this issue?

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Paul Ellis, Head of Thought Leadership

Educating for tomorrow's world

The purpose of education is being redefined. Tomorrow's learners need more than knowledge alone – they need the confidence, creativity and resilience to thrive. As educators, our shared task is to help them develop the understanding, skills and mindset to shape the future, not just adapt to it.

Education has never stood still. The principles and purposes of education have always evolved alongside the world it serves. As economies, technologies and cultures change, so too do our ideas about what it means to be educated. What persists is the belief that learning should prepare individuals not only to participate in society, but also to improve it.

So what does it mean to be 'future ready'? It is not simply about equipping students with the tools to cope with change, but empowering them to shape it – confidently, creatively and with a strong sense of purpose. This can mean rethinking how we teach, lead and learn in schools across the globe.

We asked senior admissions leaders from universities around the world what they believe students need to thrive. Watch here

They highlighted the importance of developing strong foundations of knowledge alongside the ability to adapt to new and unforeseen situations. In an era shaped by AI and rapid technological change, they emphasised that **learning how to learn** is more critical than ever, together with digital and data literacy, and the capacity to think critically about global issues. Above all, they noted the enduring value of a broad, humanistic outlook that helps students understand and collaborate across cultures – skills that will serve them not just at university, but throughout life.

This year, the Cambridge Schools Conference convened face-to-face meetings in Miami, USA, and this month, Bali, Indonesia, to bring together international school leaders, teachers and world-leading experts to explore what future-readiness looks like in practice. The conferences build on insights from Cambridge's new global research, Preparing Learners to Thrive in a Changing World, which identifies five key priorities for action:

1. Signpost the skills students are developing through their learning more clearly (pages 14 and 15).

2. Reframe the role of subject knowledge in terms of lifelong success.

3. Emphasise oracy – emphasise the power of spoken communication to support learning and collaboration.

4. Create space to support students in developing self-management skills (pages 17–19).

5. Position school as a critical place to foster meaningful connections (pages 16 and 17).

This issue of *Outlook* brings together ideas and experiences inspired by these priorities – from classrooms and communities around the world. Preparing learners for the future is not a single initiative, but a shared and continuous journey. It calls for collaboration, curiosity and courage from us all. We invite you to join the conversation and share your reflections on the ideas explored in this magazine: outlook@cambridgeinternational.org

Abigail Barnett, Director of the Cambridge 3–19 curriculum

Wellbeing pathways: extending across the curriculum

Our research shows that wellbeing challenges are affecting older students' ability to thrive. Abigail Barnett explains why we're extending our support.

Through our work on Preparing Learners to Thrive in a Changing World, we heard of some of the pressures students face. More wellbeing support is needed for students to succeed in a range of areas identified in the report – from communication to self-management and feeling mentally prepared for the future.

The link between wellbeing and learning is well documented, and we know from our work with governments that it has moved up the education agenda since the pandemic. The OECD's most recent PISA test results from 2022 show that social and emotional skills are related to students' mathematics performance in all countries/economies with available data[1].

Anxiety can hold students back

In our research study, both teachers and students highlighted specific sources of anxiety at school and some of those surprised me a little, such as the pressure students feel in expressing opinions that might be different from their classmates. When we asked teachers what they think is the biggest challenge to helping students develop social skills, 25% selected 'fear of judgement' and 17% chose 'learner anxiety'.

Students also shared their worries about change. A large proportion of students reported multiple concerns, with fear of the unknown (52%), lack of control (49%) and decision-making difficulties (47%) being the most selected options. It is not surprising that students feel overwhelmed given the amount of information – fact and fake – they are exposed to. Having strategies to deal with these worries will help them in and outside school.

Expanding our wellbeing support

We already offer an award-winning Wellbeing curriculum for Cambridge Primary and Lower Secondary learners, but there's now clear evidence that older students would benefit from this programme. That's something we want to pursue and I'm looking forward to collaborating on its development with schools.

By extending the Wellbeing curriculum to Cambridge Upper Secondary and Advanced stages, we can really support students to develop skills they need for the future – such as developing positive relationships with others, encouraging them to reflect on their behaviour and understand themselves, and manage their emotional and physical wellbeing. We can also help schools develop a whole-school approach to wellbeing, and a shared language and understanding around it.

In the meantime, teachers can use our Cambridge Wellbeing Check to gain insight into how older students are feeling and take steps together to improve wellbeing. The expertise and evidence we have gained from this assessment, working alongside University of Cambridge researchers, will feed into the curriculum development.

Just as we are embedding climate change education across our curriculum, embedding wellbeing support will help empower students and give them the confidence they need to respond to change.

Reference

1. PISA 2022 Results Volume II, 2.3 https://www.oecd.org/en/publications/pisa-2022-results-volume-ii_a97db61c-en/full-report/component-9.html#chapter-dle3674-d18551496c

Dr Iwan Syahril, Adjunct Faculty Member of Monash University, Indonesia

Why teachers' emotions matter in leading change

Dr Iwan Syahril, who has previously supported education reforms for more than 53 million students across Indonesia, speaks with *Outlook* about why meaningful change in education demands not only strategy and policy, but also a deep understanding of human emotions.

When change management expert Dr Iwan Syahril reflects on what future-focused education should look like, he begins from the perspective of the student. "Students must always be front of mind," he says. "It's about making decisions that truly reach the classroom, shaping day-to-day realities and providing the right support for students."

For learners to be ready for the future, they need more than technical skills. "With constant disruption, adaptability and resilience become essential," he notes. "Change rarely follows our plans, so learning to adjust and recover is critical."

Students were consulted directly as part of the research for Cambridge's new report. "The fact that this research invited the voices of students as well as teachers is super-super powerful and so is the diversity of the data because of the Cambridge network," says Iwan. "I think the report will shape global dialogue about the future of education."

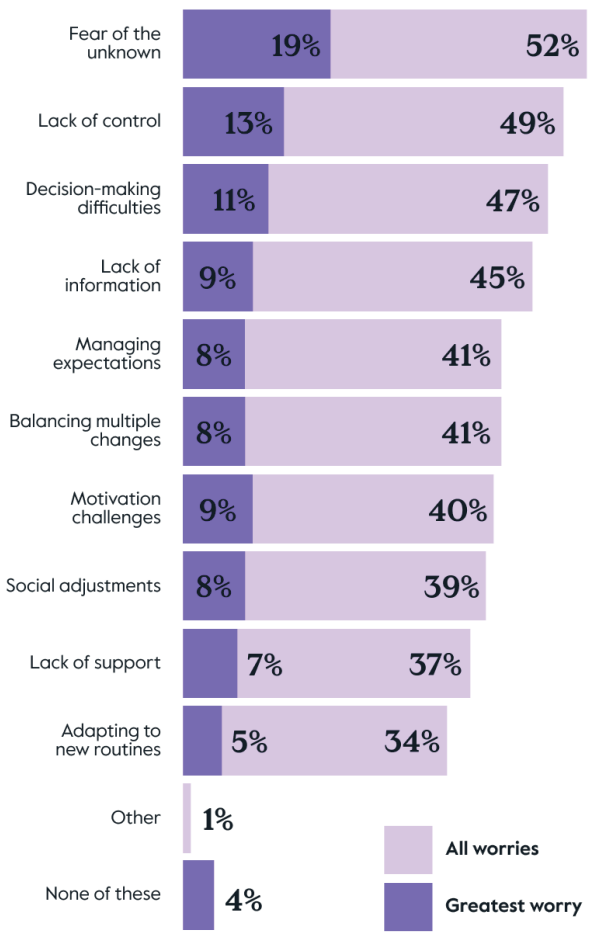
But behind every reform, there is a deeper question: how do *humans* experience change?

Leading as humans

According to Iwan, change is never only a technical matter. It involves emotions and the human experience. Over the past two decades, research into teachers' emotions has expanded rapidly, revealing that educators interpret reform through feelings about identity, moral commitment and vulnerability.

What worries students?

Students were first asked to select all that apply and as a follow-up which of the options they selected is their greatest worry.



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Yet, Iwan believes emotional intelligence goes beyond understanding teachers' feelings. It reflects a broader capacity for leadership. "The more uncertain the world becomes, the more we must lead with emotional wisdom. Emotional intelligence helps us notice fear, hope, and identity in others and in ourselves. It turns empathy into strategy."

Iwan sees three key principles that education leaders need to follow to support effective change. First, they must understand the human journey of change. "By nature, people struggle with change, and biologically it becomes harder as we grow older," says Iwan. "When you ask teachers and school leaders for new ideas or a new vision, you are asking them to experience discomfort. Acknowledging that truth helps us design change with compassion, not just compliance."

The second principle for leading successful change is to adopt an innovative mindset, he says: "Fear of failure, or making a mistake, prevents leaders from making a decision for change but if you adopt an innovative mindset, you know that not all experimenting with new ideas will be successful right away. Ideas will evolve. And when you see experimentation as learning, mistakes become data points for reflection and iteration."

The third principle is to build a strong learning ecosystem. "We will never be one hundred per cent prepared but what we can do is build a culture of learning in our learning ecosystem and prepare for embracing disruptions."

From emotion to trust

If we want people to embrace change, we need to give them a clear purpose and we need to give people time, says Iwan: "A lot of policymakers and leaders in education think that people will understand change right away, but change ideas can be more complex and require time to learn. If you don't give good learning support and time for change, it's not going to be successful. You will end up in a loop of, 'maybe this isn't working' and then you change again."

This cycle leads to reform fatigue, says Iwan: "If leaders aren't clear, the stakeholders at grassroots level can have change fatigue. They lose trust, become sceptical and pessimistic."

Trust, he adds, grows when change feels like a choice, not a command. "If you force everyone at once, resistance grows loud and can be toxic. But when early adopters lead the way, others follow naturally. Choice builds ownership, and ownership builds trust."

Governing with empathy

"Our homework lies with leaders and governors," says Iwan. "If governance is built on control rather than empowerment, innovation dies. Systems flourish when leaders balance accountability with empathy. Teachers who feel trusted help students learn better, and when students learn better, our whole global community benefits."

Real transformation endures when leaders can hold reason and emotion together so that evidence and empathy coexist. "Emotional intelligence is not a soft skill," Iwan concludes. "It's a strategic competence for leading human-centred systems. When we understand emotions as data for trust, we don't just change policies, we change lives."

Rose Luckin, Emeritus Professor at UCL Institute of Education

AI can write your essay… but it can't think like you

As AI transforms the way we learn, educators are rethinking how it supports their approach to preparing students for the future. Rose Luckin, a recognised expert on AI in education, spoke to *Outlook* about her views on its use and potential misuse.

After more than three decades studying how technology shapes teaching and learning, Professor Rose Luckin has grown increasingly concerned about the rise of generative AI in the classroom. Tools like ChatGPT and other text-producing systems are now writing much of students' work for them, and this category brings its own distinct challenges. Its conversational interface is so enticing, but studies show that while students might use it to produce essays, they don't really understand them. They don't engage in the sophisticated thinking about the concepts they're supposed to be writing about, she believes.

> "Only a small part of human intelligence is replicated by AI."

Embrace struggles and policies

Learning requires "productive struggle" says Rose: "We learn through making mistakes. AI might make students' lives easier, but we want it to be the right kind of 'easier' and I don't think that's an 'easier' in intellectual terms."

Educators can support students in using AI tools in a more sophisticated way, she says: "We need students to ask the right questions, building metacognition capacity and capability, and helping them develop a deeper understanding of how knowledge is evaluated and justified. As the recent Cambridge report on Preparing Learners to Thrive in a Changing World highlights, students need these sophisticated thinking and learning skills and actually, AI can help to build them."

Teacher use of AI also needs thought, says Rose: "Some use of generative AI by teachers is not necessarily in line with what their institution might recommend, or maybe the institution doesn't even have a recommendation."

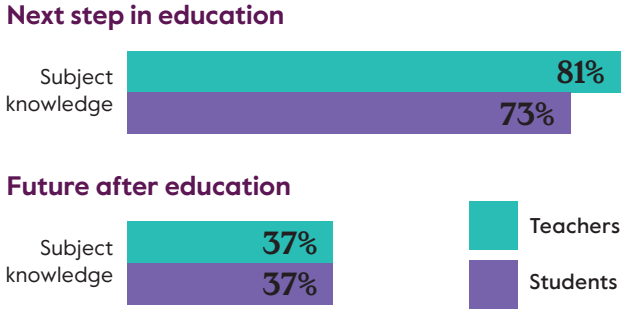
This leads to 'Shadow AI,' Rose explains – the unsanctioned use of AI tools that teachers are

familiar with through personal use. "There needs to be a school policy and that policy needs to be developed collaboratively by a group of teachers so that more people know it exists and understand it."

Preparing students for the future

Findings in the report showed a decline over time in the value students place on subject knowledge: 73% said it is important for their **next step in education** compared with only 37% who consider it important for their **future beyond school**.

Rose agrees with the report's findings that there needs to be a reframing of the importance of subject learning: "In a world of AI, subject knowledge is still enormously valuable, but we need to use every subject area as a chance to build these broader, cross-cutting thinking skills. We need to think about students' emotional intelligence so they can work effectively in teams, for instance, and use collaborative problem solving to address challenges."



Looking at AI through different lenses

Rose frequently encounters people who feel overwhelmed by AI, which has led to her development of the 'Three Lenses of AI in Education' framework.

When we look at AI through the first lens, she says, we acknowledge that AI is something everyone needs to have an understanding of. When we look at it through the third lens, we think about its uses – not just for teachers and learners, but also for managers and administrators. When we look through the middle lens, we relate it to human intelligence.

> "We need to separate generative AI and the rest of AI."

"That middle lens is trying to draw attention to the deeper implications of AI for education, with particular respect to what we need to build within our students and ourselves," says Rose. "We need to take a step back and think, 'what does this mean in the bigger picture of what our system needs to deliver?' and 'what do students need in order to be ready for the workplace?'. There are many teachers who are thinking like that, but it's hard to work out exactly what to do."

Where we win

It's important to recognise and appreciate that as humans we have a direct experience of the world that AI systems don't have, says Rose. "We live in it – we smell and touch and feel and experience it. That includes the fact that we feel emotions – good and bad, positive and negative. This is very different to what AI has. Only a small part of human intelligence is replicated by AI because there is so much about human intelligence that we don't measure. We have to deal with situations and people we've never encountered before and that requires so much intelligence – emotional, social and academic intelligence.

We have absorbed so much of our human context that we don't necessarily have to say everything explicitly and that's very hard for AI. AI makes a stab at it but it's not authentic and I think it's that authenticity and richness, that ability to interact in the world, AI doesn't have a grip at all," she concludes.

Teaching with or without AI

AI is reshaping teaching, but not all educators agree on what that future should look like. In these three articles, a history teacher, an AI-championing science educator and a sceptical physics teacher share their contrasting experiences from the classroom.

Min Shen Lee
Borneo International School, Borneo

As a physics teacher, I found the idea of implementing AI into education inherently exciting and it was definitely an idea worth exploring.

Initially, I tried to use AI to design worksheets and presentation slides to smoothen my workflow. Unfortunately, it did make a few mistakes when producing a worksheet, and it wasn't fully capable of producing the presentation slides that I have envisioned. Moreover, with so many reports pointing out the unreliability of AI and its tendency to produce faulty results, I soon came to the realisation that AI is still in its infancy and needs time to develop. This then begs the question: How does one approach AI in the realm of teaching?

It's disappointing that some people in education – even some teachers – still believe that AI can fully take the place of real teaching. To me, being a teacher is about more than writing on a whiteboard, speaking to a multitude of learners, handing out quizzes and worksheets, collecting, marking and returning them; if that were the case, AI could easily replace us once it became capable enough.

Being a teacher is about much more. It involves helping learners discover the many remarkable qualities that lie within themselves – qualities such as the desire to seek truth, the will to create meaningful art, the capacity for logic and rational thinking, the ability to recognise beauty in the world, the power to turn thought into action, and the skill to collaborate with others. As the Bahá'í Writings remind us, we should regard humanity "as a mine rich in gems of inestimable value. Education can, alone, cause it to reveal its treasures, and enable mankind to benefit therefrom."

Method Musendo
Wisetech College, Zimbabwe

As a history teacher in Zimbabwe, I believe AI tools have transformed how I teach and how my students learn. Platforms like ChatGPT, Gemini, DeepSeek and our local Chikoro AI have reshaped my approach to differentiation, assessment and learner support.

AI now plays a central role in lesson planning and student profiling. It helps me create materials tailored to different abilities and generate detailed profiles that track progress and learning needs. Using Poe 3.5, ChatGPT and Chikoro AI's curriculum-specific features, I can produce personalised report cards that give parents clear, actionable insights rather than generic comments.

AI has dramatically improved lesson pacing and assessment. It helps me generate discussion prompts, adapt activities on the fly and create brief end-of-lesson check-ins to gauge student understanding. DeepSeek and Chikoro AI have proven especially valuable in providing detailed feedback on students' historical arguments and source analysis, making assessment more efficient and constructive. Chikoro AI's tailored approach to our specific curriculum needs ensures that feedback aligns perfectly with our learning objectives.

I have established AI as an 'assistant teacher' for after-school support, allowing students to get immediate help with historical concepts or essay

structure when working from home. This has made learning more accessible and flexible, particularly benefitting students who might be hesitant to ask questions in class.

Teaching students about 'smart prompting' has become a crucial part of our curriculum. This skill helps them effectively interact with AI tools, becoming as important as traditional research methods in our digital age.

AI saves time. It handles routine tasks like generating practice questions, creating basic outlines, and providing initial assessment feedback, freeing me to focus on meaningful interactions and developing students' critical thinking skills. AI doesn't replace traditional teaching methods, but it has become an invaluable complement to my teaching toolkit.

Shveta Dhand
Rose Manor International School, Mumbai, India

My first real encounter with AI in the classroom was in 2019, when our education system introduced AI as a multidisciplinary, integrated pedagogical approach for Grades 6–12 (ages 11 to 18). The goal was to use AI tools to support experiential learning. We teachers received guidance on how to connect curriculum topics with AI concepts and design lesson plans that brought the two together.

When I began using AI tools in my science classes, I immediately saw a change in my students' enthusiasm. Traditional teaching methods often benefitted only the strong academic performers, but AI-based tools – especially gamified ones – helped engage a much wider range of learners. They made lessons more interactive, improved participation, and boosted learning outcomes. These tools also helped me introduce students to key areas of AI such as computer vision, data science, and natural language processing.

As I gained experience, I started sharing what I learned at conferences and training sessions, encouraging teachers from all subject areas to explore AI in their classrooms. Over time, I also worked to build a broader AI culture in my school. Today, Rose Manor International School is recognised by Intel as the only international school in Maharashtra that is 'AI Ready'. We run AI boot camps every summer and winter, where students complete courses such as 'AI for All' and 'AI for Youth' and develop AI projects related to the Sustainable Development Goals. Some of these students have gone on to compete at national and international showcases: one made the top 200 of the national VIVO Innovation Challenge, another has competed at the Intel® AI Global Impact Festival and a third was named among the top 50 in the Young Changemakers World Cup 2025.

I've had the opportunity to train members of the AI Facilitator Community (AIFC) and to contribute to Cambridge's AI Focus Group (2023–25), helping shape ideas for an AI-based tool on the School Support Hub. I firmly believe that integrating AI into classroom teaching is essential. It not only enriches learning but also ensures education keeps pace with the technological world our students are growing up in.

Join Cambridge's new pop-up community of practice and help shape how AI is used in classrooms worldwide. We're inviting teachers from all subjects to share experiences, explore opportunities and challenges, and gain support in guiding students' use of AI. Take part in research, join expert-led discussions, and add your voice to the future of learning.
https://cupauk.qualtrics.com/jfe/form/SV_6zBRGJx6DJznECq

A new framework for climate change education

Cambridge has been at the forefront of integrating climate change into education. Now, our new Climate Change Education Framework will help children of all ages – and their teachers – understand, evaluate, care and act together in response to one of the greatest challenges of our time.

"Students going through school today expect to learn about climate change, but the generation who are their teachers went through school and didn't learn about climate change, or at least it wasn't a big theme," says Judith Roberts, Curriculum Programmes Manager at Cambridge. "That means students and teachers are all learning together."

It's a striking observation, and one that captures the heart of Cambridge's new Climate Change Education Framework, a new initiative designed to help schools build a holistic, age-appropriate approach to one of the defining challenges of our time.

> "This is about whole schools learning together."

Cambridge has long since championed the idea that high-quality climate change education can transform lives, not only by equipping learners to act in the face of climate-related crises, but also by empowering them to make choices that lessen the impact of climate change for everyone. The new framework builds on our work to integrate climate change information across the curriculum by asking an essential question: what does high-quality climate change education actually look like for children of different ages?

"We've always known climate change couldn't just sit within one subject," Judith explains. "We wanted to understand how all subjects can play their part, how we can bring together knowledge, critical thinking, empathy and action into a single, holistic picture across the Cambridge Pathway of learning."

Four dimensions of climate learning

The result is a framework built around four interconnected dimensions: Understanding, Evaluating, Caring and Responding.

The **Understanding** strand focuses on the core knowledge students need: the science of climate systems, the causes and effects of global change, and the concepts that underpin sustainability.

Evaluating an ever-changing information landscape is an important skill to learn. This equips students to question new claims, analyse data, and spot misinformation or greenwashing. As Judith notes, even the most up-to-date knowledge soon shifts, so students must be able to assess fresh information thoughtfully and critically as it emerges.

The third dimension, **Caring**, brings in the human element, helping learners to manage emotions like climate anxiety and to consider the moral questions of global responsibility. "It's about asking: am I willing to make choices that might make my life a little less comfortable if it helps someone I'll never meet, in a very different part of the world? So that covers caring for others and caring for the planet."

Finally, **Responding** focuses on action. Learners develop the skills to identify problems, work collaboratively, and take meaningful steps from local projects in their communities to advocacy and innovation at a larger scale.

"We don't just want problem-solvers," Judith says. "We need people who can identify the problems that need solving and who have the teamwork and reflection skills to do that well."

A framework for all ages

The framework outlines what each dimension looks like at different stages of learning, from early years through to lower secondary. "By the end of lower secondary, students begin to make subject choices," Judith explains. "So it's vital they've already had that holistic view before they start to specialise."

Teachers, too, play a central role. The framework helps them see how their subject fits into the bigger picture, ensuring climate change education develops naturally across disciplines rather than through repetition. "We don't want every lesson to be 'climate change, climate change, climate change'," says Judith. "We want history teachers to see how source analysis builds critical thinking, which later helps students assess greenwashing, that's how the pieces fit together."

Collaboration and context

Developed in partnership with experts from the University of Cambridge and a network of schools in our climate change education community, the framework reflects a shared understanding that effective climate change education depends on context. "What matters in one region might be mitigation or reducing emissions," Judith notes. "In another, it's adaptation or preparing for change that's already happening. The framework helps teachers navigate those differences."

As the framework is gradually rolled out across Cambridge schools worldwide, Judith hopes it will inspire confidence, showing educators not only what they already do well, but also where to go next. "This isn't about putting responsibility on students," she says. "It's about whole schools learning together, across subjects; children and teachers too."

Watch Judith describe the framework.

New resource

Read our new report exploring how geography education equips learners and teachers to understand and respond to climate change.

Cambridge HEACs: guidance in a changing higher education landscape

Kevin Ebenezer, Director, University Pathways & Progression

I was delighted to join representatives from Australia's leading research-intensive universities (the Group of Eight) and the Australian Technology Network last month for Cambridge's Australian Higher Education Advisory Council (HEAC) meeting. Our discussions centred on the expansion of transnational education, the rise of branch campuses, and a sector-wide shift from restricted to more deliberate, managed growth. These relationships with senior representatives lead to positive outcomes: applications from Cambridge students to the University of Melbourne, for example, have soared 456% over the past decade.

As the international higher education landscape undergoes rapid and unprecedented change – driven by geopolitics, visa policies, an increased focus on career outcomes, affordability concerns and questions around return on investment – our HEACs provide an essential forum for sharing insights, identifying emerging trends and fostering collaboration.

In addition to Australia, we convene a Strategic HEAC (SHEAC) with leading institutions across the US, Canada, Australia, Japan, Hong Kong, India, South Africa and the UK; a Europe HEAC comprising senior enrolment staff from both established and emerging European destinations; and our newest HEAC, formed with leading Japanese universities offering English-medium programmes. The introduction of the new IGCSE™ Japanese language syllabus will further support students preparing to study and live in Japan.

Together, the HEACs ensure that Cambridge students remain well positioned to thrive in a rapidly evolving global landscape. You can hear directly from several of our members as they describe how Cambridge qualifications prepare students for university. We will continue to expand the HEAC network where it is most needed, and look forward to sharing news of a new Council soon.

The hidden depths of A Levels

Think A Levels are just about subject knowledge? Think again. A new Cambridge study uncovers the skills built into Cambridge International AS & A Levels – showing how they foster the critical thinking, self-awareness and problem-solving abilities students need to thrive beyond the classroom.

Fewer than half (48%) of the students we surveyed in our report, Preparing Learners to Thrive in a Changing World, believed they were well prepared for their next step in education. However, teachers view their students as well prepared for their next step (67%).

So where does this underestimation on the part of students come from? It may be that they are not recognising the skills they are developing alongside deep subject knowledge, or see the different ways in which their learning experiences at school could translate into future success.

A new Cambridge University Press & Assessment study sheds light on this area. The research, Filled with Skills: An Analysis of Four International AS and A Levels (Suto et al., 2025)[1], shows that Cambridge International AS & A Level qualifications cultivate many of the 'future skills' young people need to navigate an increasingly complex world.

Higher-order thinking skills

The study analysed the syllabuses, specimen papers and mark schemes for four Cambridge International AS & A Level subjects – English language, geography, physics, and psychology – using a detailed skills-coding framework based on Marzano and Kendall's (2007) New Taxonomy of Educational Objectives[2]. The researchers mapped each question to a range of cognitive processes, from simple recall to complex metacognition.

Across all four subjects, the researchers identified extensive evidence of higher-order (and lower-order) thinking skills. To narrow the scope of the study, the research focused on three areas of higher-order thinking skills in particular.

These three areas were selected because they feature heavily in the conversations around "future skills" that we have seen in education over the last decade.

Systems thinking equips students to approach complex, interrelated problems – like sustainability, technology, ethics, or healthcare – with a holistic mindset rather than isolated thinking. Often involving the identification of patterns, feedback loops and wider impacts within systems, this skill was found to be embedded across geography, physics and psychology. Students were frequently required to identify components and their roles, find connections and predict consequences – for instance, analysing ecosystem interactions or designing controlled scientific experiments.

Problem-solving was most visible in physics and psychology, where students routinely applied general principles to new scenarios. The researchers distinguished between **kind** and **wicked** problems: kind problems have clear parameters and predictable solutions, while wicked problems are ambiguous, multifaceted and open-ended. Cambridge International AS & A Level exams focus almost exclusively on kind problems – a pragmatic choice given the need for fairness, standardisation and reliable marking. As future careers increasingly value adaptability, problem-solving helps students think creatively, test ideas and respond confidently to new situations.

Metacognitive skills (thinking about one's own thinking) appeared in fewer examination tasks but were still detectable. English language students, for example, had to reflect on their linguistic choices, and physics students to monitor experimental progress. Metacognitive skills such as self-awareness and independence are key attributes for lifelong learning in a world where knowledge and technologies evolve constantly.

What this means for education

Overall, this study shows plenty of reasons to be positive about how Cambridge International AS & A Level exams develop students' thinking. Students aren't just expected to remember facts, they also need to analyse information, apply what they've learned in new ways, and show real understanding of the material.

> "Taken together, the findings suggest that students who do well at Cambridge International AS & A Level are likely to be well-equipped with 'future skills'."

The authors plan to extend the skills audit across more subjects and teaching materials to identify skills overlaps, gaps and complementarities in skill coverage.

Looking ahead

Helping students recognise when and how they are developing key skills is vital for preparing them for the future. If students are more aware of the skills they are developing and understand how they can be applied outside school to tackle challenges in the future, they gain greater confidence in their readiness for what comes next and feel more empowered to shape their own paths.

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1. Suto, I. et al. (2025). **Filled with Skills: An Analysis of Four International AS and A Levels.**

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Why schools are more important than ever

"At a time of profound global change, great schools, great teachers and a clear, purposeful curriculum remain the foundations of great education," says Rod Smith, Group Managing Director of International Education, Cambridge. Across the world, school leaders are looking for new ways to strengthen those foundations – helping students feel connected, supported and ready to thrive in an uncertain future.

In our global research, Preparing Learners to Thrive in a Changing World, a clear message surfaced that schools are not just places of learning – they are communities that help students feel safe, connected and ready for the future. Here, four school leaders who took part in the research – from Kenya, Oman, India and China – share how they are helping students build stronger, healthier connections in a changing world.

Kenya: creating opportunities for students to connect offline

Ildar Iliazov is Head of School at Light International School Mombasa; part of the Light Group of Schools in Kenya offering the full Cambridge Pathway.

"I would say that students in our school are asking for more opportunities to connect with each other. We have a mentorship programme where the mentor-teacher divides the class into groups according to their interests and personalities, allowing them to build stronger connections with one another. They often spend their breaks discussing the world and exploring values together.

'Mentors also organise different activities for students on Saturdays, such as trips to the cinema or cycling outings, to help them stay connected and engaged in positive ways when their parents may be busy. It's something we choose to do because the world is changing. Previously, children spent more time outdoors playing together in the street, but today they are mostly on their phones because of safety concerns in the streets. Building strong, genuine relationships has become more challenging, so we are intentionally helping students learn the value of family, friendship, and community."

Oman: developing resilience against online bullying

Luis Silveiro, Head of Academic Qurum International Private School in Muscat. The school has over 1000 students from kindergarten to Grade 12.

"Nowadays students have friends – virtual friends – all over the world. They create connections with people who share their mindset, and develop relationships in this virtual context which is safe physically, but dubious psychologically because they have no idea of body language or intonation. They are communicating more and more through a limited vocabulary.

'Students feel this online entertainment brings about a sense of wellbeing, but when it suddenly changes into something negative – for example online bullying – it leads to a sense of alienation, and they cannot connect properly with people in the real world. We need to train teachers about online bullying so they can flag it in the first instance and then intervene. We can't just wait for the online bullying to go away, because it doesn't – it gets worse and worse."

India: helping students build global connections

Dr Manju Surendran is Director Academics at Fravashi International Academy School, Nashik. Her school offers the Cambridge Pathway to around 1100 students.

"I would welcome Cambridge taking a more active step towards building connections between its schools around the world. This would enable students to have a much deeper exchange with students in other regions.

'Inter-school connections would take on a different dimension if they were curated, planned and implemented, for example by Cambridge, rather than by schools themselves. If my students knew that Cambridge had arranged for them to collaborate with a school offering the Cambridge curriculum in say Germany or Tanzania, they would see the educational value in it – it wouldn't just be a fancy activity.

'Students everywhere have assumptions about life in other countries based on what they see on the internet. But India is much more than what you see on Bollywood shows! There is a lot that needs to be understood. If we connect schools across countries more, I feel we'll prepare children much better for the world."

Cambridge replies: Initiatives like our annual Cambridge Global Perspectives Fair – which this year brought together students from eight countries in Latin America and the Caribbean – show the value in helping students understand global issues from different perspectives. If you'd like to connect with a school in another country, please contact your local Cambridge team.

China: giving students the language to express emotions

Tracey Cooney is Head of Teaching & Learning, Child Protection Officer and Life Skills Coordinator at Yew Chung International School (YCIS) of Shanghai – Pudong campus. The Shanghai branch of YCIS has about 2000 students aged 2 to 18 years.

"Having the vocabulary to describe emotions is an important part of wellbeing, particularly in our context where a lot of students speak English as a second language. A default way to describe their emotions can be 'that's bad' or 'I'm sad', but the challenge is trying to pin down how they are feeling. It's something we have to work on with students, so they have the tools to say 'oh it's not that I'm feeling sad, it's that I'm feeling frustrated'. Once they can better identify their emotion, they can tell someone how they are feeling or figure out a way to process it."

Across these different perspectives, one theme stands out: when students feel connected – to their peers, teachers, and to a wider global community – they are better able to learn, to improve their wellbeing and to thrive. Schools are more than places of study; they are the heart of learner experience in an increasingly complex world.

Learning with purpose

How emphasising the purpose of learning might increase motivation in an era of uncertainty and endless distraction.

One of the most attention-grabbing findings of our Preparing Learners to Thrive in a Changing World report is around distraction. 66% of students say they worry that technology is making them too easily distracted, while 18% of teachers say 'digital distractions and reduced attention span' is the greatest challenge technology poses in preparing students for the future. More concerningly, 88% of teachers believe students' attention spans are getting shorter.

The ability to hold focus is an element of self-management – a set of skills that teachers and students tell us are hard to teach and learn, but critical for the future. Speaking at the consultation for our research, Jenny Anderson – co-author of The Disengaged Teen – said: "In the US, there's a debate around college students not being able to read

long books anymore, the overriding sentiment is a sort of panic – that something has been broken and there's no going back. However, the conversation is now moving on to the more interesting question of how we should respond. Is it to bring everything down a level in the classroom and really meet students where they are, or is it about setting higher expectations and trying to lift to there? Maybe if we design things a little bit differently, students will read long books – they **will** want to read them."

Don't take these skills for granted

Discussions during our qualitative research and expert consultation made it clear that technology is not the only cause of distraction – students' worries about the future and wondering if there is any purpose to their studies also play a role. Mitch Weathers, consultation participant and founder of Organized Binder, said: "Young people are hearing the narrative that the jobs of the future don't even exist yet." This impacts students' motivation, which in turn impacts their ability to self-regulate.

He thinks the solution in a time of uncertainty is to help students focus on something concrete: the timeless skills and habits they will need regardless of environment. "Goal setting, time management, organisation, self-regulated behaviour, accountability – these executive functioning skills need to be taught explicitly through daily practice," he says.

What do you think? We'd like to hear how you help learners maintain focus and motivation in the classroom – please get in touch at outlook@cambridgeinternational.org

Strengthening executive function for every learner

Drawing on insights from experts, Paul Ellis, Head of Thought Leadership, highlights strategies to strengthen executive function, support all learners and create inclusive environments where every student can thrive.

Self-management and executive function are deeply interconnected. Self-management – the ability to regulate one's thoughts, emotions and actions – depends on core executive function skills such as attention, focus and emotional control. These cognitive processes enable students to manage distractions, adapt to change and sustain concentration on complex tasks. Yet, as Preparing Learners to Thrive in a Changing World shows, many young people struggle with these very skills in an age of digital distraction and uncertainty.

Strengthening executive function through purposeful practice can therefore help students build the discipline, resilience and agency needed to self-manage effectively.

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Mitch Weathers, CEO and president of Organized Binder, which offers a practical, classroom-embedded toolset that helps students organise their work and approach, says: "We've historically just hoped that young people can develop core executive function skills and habits – like time management, organisation, goal-setting – as they make their way through their schooling experience or life, but we really can't afford to make that mistake any longer."

Mitch's approach helps students develop routines, reflect on their learning and take ownership of their progress[1].

Strategies for the classroom

Here are some ways school leaders and teachers can support neurodivergent (and all) students by strengthening executive functions:

1. Create predictable routines – help reduce cognitive load. Use visual schedules, checklists and clear transitions to support students who struggle with planning and organisation.

2. Break tasks into manageable steps – for students who find it hard to initiate or complete tasks.

3. Use visual supports – diagrams, colour coding and mind maps can aid memory and focus, especially for students with dyslexia or attention deficit hyperactivity disorder (ADHD).

4. Teach self-regulation skills – such as mindfulness, breathing exercises and movement breaks. These help students manage emotions and refocus attention.

5. Offer flexible assessment methods – allow students to show understanding in different ways – through oral presentations, drawings or digital media – rather than relying on written tests.

6. Build a culture of understanding – offer staff professional development opportunities and reflection time to recognise executive function challenges and respond appropriately.

Importantly, executive functions are not just academic tools – they are life tools. For some neurodivergent students – such as those with ADHD, autism, dyslexia or dyspraxia – executive functions may operate differently, affecting how they learn, behave and interact both inside and outside school[2]. Some neurodivergent students may struggle with organisation, emotional regulation, time management or shifting attention between tasks. These difficulties are often misunderstood as laziness or defiance, when in fact they reflect a different way of processing the world. Recognising this difference is essential for fostering empathy and effective support.

Research by Professor Sara Baker, a developmental psychologist at the University of Cambridge, and keynote speaker at both our Cambridge Schools Conferences in 2025, shows that executive functions develop over time and can be supported through targeted strategies. Her work encourages educators to see these skills as teachable, not fixed. And she encourages their application from an early age.

Leadership matters

School leaders play a vital role in embedding these practices across the whole school. By promoting inclusive policies[3], investing in professional development and listening to student voices, leaders can create environments where all learners can thrive.

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2026 Cambridge Dedicated Teacher Awards

You don't have to change the whole world to make theirs a little brighter

The Cambridge Dedicated Teacher Awards recognise teachers for the everyday things they do to bring a smile to their students' faces.

Do you know a teacher who never fails to wow classes with their teaching methods, or maybe someone who is always there with kind words at a difficult time? We want to hear about them! **Nominations open January 2026.**

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