Education Journal Review

Education Journal Review

Volume 30   Number 3
December 2024

Education Journal Review

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Volume 30 • Number 3
December 2024

Preface

The main focus of this issue of *Education Journal Review* is the Programme for International Student Assessment (PISA) research project of the Organisation for Economic Cooperation and Development (OECD). The main volumes of the latest round of PISA, conducted in 2022, are contained in volumes one and two published in December 2023. We covered those in our issue of March 2024, volume 30 issue number 1.

In this issue we look at the three lesser known volumes published last June and November. These are volume three, *Creative Minds, Creative Schools*, volume four on *Financial Literacy* and volume five on *The Triangle of Life Long Learning: Strategies, motivation and self-belief.*

Over the last quarter of a century, PISA has become the main international bench mark measuring standards in secondary schools. Over the years what PISA measures has been expanded and these three volumes break further new ground. All three volumes are considered in separate articles by our own Director of Research, Tim Mangrove.

In addition, in this issue we bring you a paper by Katie Leonard on visual literacy and primary schools. Dr Gillian Paull and Nick Fitzpatrick contribute a paper on another aspect of primary education, that is the Government's desire to deliver on expanding early years provision by utilising spare capacity in primary schools. But do the numbers add up?

Andrew Shenton has written an interesting and challenging paper on inquiry as the cornerstone of the modern secondary school.

Finally, we have only one select committee report to cover, from the House of Lords. Commons select committees start from scratch after each general election, so it will be awhile before there are any reports from there.

Demitri Coryton
Editor

Katie Leonard

Seeing to understand: why visual literacy should be a core focus in primary education

By Katie Leonard
ITE Partnership and Mentoring lead at the University of Staffordshire

Abstract: *Visual content is everywhere—whether in advertisements, social media, art or educational materials—images shape how we communicate, learn and interpret the world. The skill of understanding and interpreting these visuals, known as visual literacy, is crucial for navigating modern society and will only become more important in the future. Despite its significance, visual literacy remains underrepresented in education, largely because art education has been side-lined for other core subjects, such as English and maths.*

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Prior to that she was a senior lecturer in Initial Teacher Education at Staffordshire University for over six years.

For my team and I when I was at Art UK, the importance of developing visual literacy in schools is not just a matter of ensuring children can appreciate visual art. It's about equipping them with the tools they need to navigate an increasingly image-centric world, from understanding the meaning behind a political meme to interpreting data visualisations in science.

While educators have long understood the importance of traditional literacy — reading and writing — visual literacy is emerging as equally significant. While this is promising, despite this recognition visual literacy remains underemphasised in the formal curriculum, particularly at

primary level.

This raises a pertinent question: how can we adapt teaching and learning to ensure visual literacy is considered as fundamental as traditional literacy and numeracy in early education?

The curriculum dilemma: why isn't visual literacy a priority? he existing English national curriculum for art and design has long faced criticism for being one dimensional and lacking clear guidance. Since 2013, it has remained largely unchanged, offering minimal instruction and support and demonstrating a broader deprioritisation of arts education for science, technology, engineering and maths (STEM). Some teachers feel that the curriculum is not ambitious enough or lacks sufficient direction, while others appreciate the flexibility it provides for creative interpretation. However, this freedom comes with the challenge of assuming that all teachers have the expertise and confidence to effectively teach these skills, which is not always true.

This issue is compounded by several other challenges, including a shortage of subject-specific teachers at primary level, budget constraints and limited access to resources and training. As a result, art lessons, and the visual literacy skills they develop, are often further marginalised in the classroom. Yet, we need to rethink this approach. By deprioritising the arts, we are limiting pupils' ability to engage with an increasingly visual world and to acquire critical life skills that stretch far beyond the confines of traditional literacy and numeracy.

With the new Labour government in power, there are hopeful signs that arts education is starting to regain importance. Labour has pledged to prioritise arts and culture, acknowledging their essential role in providing a well-rounded education that nurtures both creativity and innovation. Their promises include considering the role of these subjects in the Terms of Reference for the Curriculum and Assessment Review which is currently underway.

This positive momentum is encouraging but the practicalities of implementing such significant changes mean

we need to mobilise advocates for art education and visual literacy to ensure these critical skills are recognised as a core pillar of primary education. These changes will also take time, so in the meantime, schools and teachers need support to bridge the existing gaps in knowledge, confidence, and resources, ensuring that children aren't deprived of the benefits visual literacy brings.

Defining visual literacy?

Visual literacy, at its core, is the ability to 'read,' 'write,' and 'create' images. This skill enables us to interpret, understand and derive meaning from a wide variety of visual formats — not just traditional art, but also digital media, photos, social media posts and even emojis.

Visual literacy involves grasping the messages that images convey, recognising how they can provoke emotions, guide perceptions and effect behaviour. The essential elements of visual literacy include:

1.   Interpretation: Grasping the content and context of an image and understanding the story behind it, whether it's a historical painting or a meme.

2.   Analysis: Delving deeper into the components and structures of visual media to understand and appreciate the finer details, and questioning what makes it captivating and what elements are at play.

3.   Evaluation: Assessing the effectiveness and impact of visual communication to help evaluate and discern the quality and purpose of the visual materials and imagery, considering how compelling it is and whether it conveys data or messaging.

4.   Creation: Self-producing meaningful visual content and taking inspiration from others to help spark creativity and innovation. From designing a logo through to creating an engaging presentation slide, this ability is invaluable for all

kinds of scenarios.

5.   Engagement: Interacting with visual media and images through a critical lens and reflective manner, considering their broader implications and contexts.

Visual literacy equips individuals with the ability to interpret complex visual messages and express their thoughts and emotions with clarity. These skills are also not confined to the realm of fine art. They are invaluable in a world increasingly driven by visual data, digital storytelling and multimedia communication.

Why visual literacy matters?
In a world saturated with visual information, the ability to understand and create visual content is crucial for several reasons. It isn't just about appreciating beautiful or provocative art—it's about how we perceive and make sense of everything we see. Whether we're evaluating graphs in a business meeting, designing a presentation, or interpreting an infographic in the news, the ability to decode and create images is central to effective communication.

Enhancing learning across disciplines
Visual literacy can significantly enhance learning across all subjects. In education, visuals can aid comprehension and retention by making information more accessible and memorable. Visual aids, such as diagrams and infographics, help pupils — particularly visual learners — grasp complex concepts more quickly than text alone. Research suggests that pupils who develop strong visual literacy skills are better able to engage with content across a range of subjects, including the long-championed STEM subjects.

Beyond the arts, visual literacy nurtures critical viewing skills, helping pupils evaluate media, question the intent behind imagery and discern visual data. These skills are vital not only in subjects like history, where pupils must interpret historical photographs and paintings, but also in

science and mathematics, where visual representations are used to explain intricate theories and solve problems.

For younger children or those for whom English is an additional language, images can serve as a bridge to understanding more complex concepts. For example, encouraging pupils to explore the visual aspects of picture books can help them better understand narrative structure and character development.

Empowering creative expression and communication Visual literacy promotes communication, not only through verbal exchange, but also by enabling the creation and interpretation of visual content. By expressing thoughts and ideas visually, pupils can tap into their creativity, encouraging innovation in the classroom. This ability is vital across various professional fields, such as marketing, design, architecture and technology. In today's world, the capability to produce engaging visual materials is highly sought after, and so visual literacy provides pupils with a distinct advantage, equipping them with a skill that many adults may not have.

Communication through images is also becoming increasingly important as our society grows more digitally connected. Visual platforms such as Instagram, TikTok, and Snapchat are driving new ways of communicating, especially among young people. Being visually literate enables pupils to not only consume content on these platforms but also create and contribute effectively.

Navigating the digital world
Visual literacy is becoming increasingly critical as children grow up immersed in digital media. From deciphering emojis in text messages to evaluating the authenticity of social media posts, young people today need the ability to interpret digital visuals responsibly and critically.

Furthermore, visual literacy helps individuals navigate a world dominated by misinformation. The ability to critically engage with and assess the credibility of images, memes and videos online is becoming an essential life skill, particularly as social media becomes a primary source of information for

many young people. By teaching children to critically evaluate images, we can also help them avoid falling prey to false information and equip them with the tools they need to become discerning consumers and creators of digital content. Building emotional and social intelligence

Visual literacy fosters emotional and social intelligence by teaching individuals to interpret visual cues in social interactions, enhancing empathy and cultural awareness. It also provides a valuable outlet for self-expression. Numerous studies have shown that engagement with visual art can reduce stress and anxiety, making visual literacy a powerful tool for emotional wellbeing. Art provides an opportunity for children to express complex emotions and ideas that may be difficult to articulate verbally.

Engagement with visual art can also build empathy. By analysing images that depict different cultures, experiences, and viewpoints, children learn to appreciate perspectives outside of their own. This fosters a greater understanding of others and promotes inclusivity, tolerance and open mindedness.

Introducing pupils to visual literacy

At Art UK, we see art as a powerful tool for cultivating visual literacy while building essential skills like critical thinking, effective communication and cultural awareness. The visual literacy skills that pupils acquire in the classroom will be key to their lifelong educational journey. As educators, we therefore, need to effectively promote and integrate this crucial skill into our teaching practices.

Using existing available resources

Of course, appreciating existing workload and budget pressures, my first recommendation is to identify and utilise readily available resources. Many teachers are already burdened with time constraints and the challenge of delivering a packed curriculum, and so they may find the preparation of new lesson materials daunting. However, by using existing resources, these pressures can be alleviated

while providing high-quality lesson materials that are can be freely available. These resources, often developed by teachers themselves, provide ready-made lesson plans, structured activities, and visual content aligned with learning objectives that can be easily integrated into existing lesson planning.

This is particularly helpful when leading a class with various levels of exposure to art, helping foster their curiosity in the subject. For example, The Superpower of Looking programme offers free teaching resources designed to help pupils develop the critical 'superpower' of looking— observing, analysing and interpreting visual media. The programme encourages pupils to develop their 'superpower' to carefully observe images and artworks, question what they see and interpret these visuals with a critical eye. By guiding pupils to focus on details they might otherwise overlook, an exercise like this helps them build essential skills like interpretation, analysis and empathy. This approach not only nurtures creativity but also helps pupils develop transferable skills that are vital across all areas of the curriculum.

Additionally, these resources often come with guidance on how to facilitate discussions and assessments, further supporting teachers in delivering impactful lessons without the added stress of creating content from scratch. This not only lightens the workload but also helps to maintain high teaching standards, ensuring consistent educational quality across different classrooms.

Teachers can enhance their lessons by seeking out cultural institutions and organisations to enrich both teaching and learning. By visiting museums, galleries or local attractions, whether physically or virtually, educators can inspire discussions and nurture greater cultural capital while developing pupils' visual literacy skills in authentic, real-world contexts. The 'superpower' approach, can also be applied in these environments – helping maintain engagement with pupils and facilitating interesting class discussions.

Additionally, engaging with art encourages pupils to challenge their assumptions, make personal connections through emotional responses or memories and appreciate

diverse perspectives as each individual brings a unique interpretation to what they see. These experiences teach children important life lessons, such as questioning attitudes, confronting stereotypes and addressing personal biases— skills that are valuable well into adulthood.

Integration across subjects

Teachers can also introduce visual literacy into other subject areas by encouraging pupils to 'see' stories through illustrations and visual cues, rather than relying solely on text. This approach is especially helpful for children whose first language is not English or for those who struggle with traditional literacy. Visual content can serve as an entry point for understanding, initiating conversations and facilitating deeper learning.

Creative expression and digital tools

Through discussions with Art UK's teacher champions, we've found that using a dialogic approach in lessons can significantly boost pupil engagement while cultivating communication and critical thinking. In this method, it's all about student-led learning with the teacher acting as a facilitator, guiding discussions and debates rather than delivering direct instruction. Pupils are encouraged to share their interpretations and reasoning, promoting a deeper understanding of the subject matter. When pupils are presented with an image or artwork and allowed to explore it without controlled guidance, they naturally become more curious and, when hearing others' perspectives, learn to appreciate multiple viewpoints. This is done through open-ended questions and prompts where teachers steer conversations, but importantly, the pupils are leading the conversation by sharing their thoughts, debating viewpoints and asking questions. This approach builds pupils' confidence, ensures active learning and maintains engagement from the class, while simultaneously supporting the development of their visual literacy skills.

We can also encourage creative expression, giving pupils the opportunity to convey their ideas and learn by

doing. This can be achieved by allowing them to create their own visual content in lessons, whether it's experimenting with photography, drawing or the ever-influential digital media. This approach is highly effective in helping pupils grasp visual literacy concepts, allowing them to create and share their designs and creations with the class. These activities can range from arts and crafts that encourage creative thinking, to more advanced projects incorporating technology and digital platforms. By integrating these methods, pupils can develop innovative solutions to global challenges, making the lesson more relevant and connected to the broader society. This approach not only enhances their creativity, but also ensures that the skills they gain are purposeful and applicable to everyday life.

A path forward: making visual literacy a core skill

It is evident that art can have a powerful impact on how we perceive things and teaches us to look at and explore various meanings behind visual information. In today's world, images and visual media are significantly used amongst communication, learning and social interactions, further stressing the importance of visual literacy as a core skill. By introducing this from a young age, we can ensure visual literacy is learned at the same time as other fundamental abilities associated with language development.

This ability to understand and develop visual content is not just an artistic skill for children, but a fundamental lesson in understanding their environment and the world around them. The critical thinking that visual literacy elevates means that children are able to digest and challenge what's presented to them in all possible formats, from advertisements and social media to educational materials.

Crucially, with digital technology increasingly becoming embedded into everyday life, having the ability to confidently interpret visual information is becoming just as important a traditional literacy and numeracy.

In order to adequately equip pupils with the tools they need to navigate and make significant contributions to the world around them in a confident and creative way, we need

to support schools in embedding visual literacy as a core part of their curriculum. After all, visual literacy is not just about academic success — it's about fostering emotional intelligence, cultural awareness and the ability to communicate effectively in a world where images speak louder than words.

Andrew K Shenton

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Inquiry as the cornerstone of the modern secondary school

By Andrew K. Shenton

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Key words: Secondary schools, specialisms, inquiry, didactic.

Abstract: *For many years, secondary schools have cultivated specialisms in particular areas, frequently in terms of individual curricular subjects or combinations whose elements can be readily linked. There are, however, significant weaknesses of such an approach. Given that so many of the usual specialisms associated with modern schools tend to lack real inclusivity, it would seem sensible to promote one which is altogether more generic and, as such, is likely to win the wholesale support of parents, students (both actual and prospective) and other stakeholders. This strength can then be vigorously marketed. An obvious, widely applicable specialism is inquiry, with investigative method, rather than didactic instruction, placed at the heart of what is done.*

The Problem For many years, secondary schools have cultivated specialisms in particular areas, frequently in terms of individual curricular subjects or combinations whose elements can be readily linked. Indeed, my own school, Monkseaton High, where I spent eighteen very happy years, has been for much of its life a designated "language college".

There are, however, significant weaknesses of such an approach. Perhaps most fundamentally, a preoccupation with one area may threaten the requirement that a school should offer a "broad and balanced curriculum". Also, the focus will not attract students for whom the specialism holds little

appeal and, mindful of the problem, the institution must seek to include other features in order to elicit widespread commitment and enthusiasm from youngsters. In making such provision, it may be hoped that the school covers sufficient bases to make available "something for everyone", but the result may be that the intended specialism becomes rather diluted.

A Solution?

Given that so many of the usual specialisms associated with modern schools tend to lack real inclusivity, it would seem sensible to promote one which is altogether more generic and, as such, is likely to win the wholesale support of parents, students (both actual and prospective) and other stakeholders. This strength can then be vigorously marketed.

An obvious, widely applicable specialism is inquiry, with investigative method, rather than didactic instruction, placed at the heart of what is done. Here, inquiry not only guides the teaching strategies that take place; it provides an agenda for the skills to be inculcated in the youngsters and, ultimately, the mindset that they apply. Paul Kelley is critical of how a "fixation on subjects" in the secondary school undermines the learning process [1]. An inquiry focus goes some way to countering the subject-based separation by emphasising a body of skills that can be applied across the curriculum.

Inquiry as a theme has nigh universal potential in an academic environment; in terms of the core subjects, there are easy links to be made with statistical investigation, scientific method and literary criticism, whereby each student forms their own evidence-based opinion of a text. Elsewhere, too, inquiry is well established and remains important. Older readers of around my age will, I am sure, have happy memories of developing their skills in weighing documentary evidence in the context of various Schools Council projects when studying History in the 1970s and 80s. Today, inquiry at school stretches beyond subject-related boundaries; it is intrinsic to the very nature of courses such as the Higher

Project Qualification (HPQ) and the Extended Project Qualification (EPQ), in which candidates determine their own matters for investigation and carry out their own research. There can be no doubt that regardless of the contexts in which we foster the skills involved, those of us who encourage inquiry are helping to lay the foundations for lifelong learning,

In order to develop a dynamic inquiry-oriented school, a constant flow of new and vibrant ideas is needed from those within the organisation. Everyone is involved in inquiry at some level. Consequently, it may be expected that a wide range of staff – teaching and support – should be able to offer an input into what the school can do in terms of inquiry, with respect to ethos/philosophy, practical methods or scenarios within which inquiry might be applied.

Inquiry v. Discovery

Readers may wonder why this article is concentrating on "inquiry", rather than "discovery"; certainly the two words are closely related and both are commonly heard in educational circles. The emphasis here on the former is deliberate. Inquiry implies systematic open-ended investigation, which may take students in a range of different directions. Ultimately they construct meaning, or "sense", from their experiences and the information they collect. This is often a highly individual process. Traditionally, the word, "discovery" has tended to evoke a rather more stage-managed approach, with students sometimes doing little more than learning the reality of established truths. Indeed, in a longstanding (i.e. 1975) definition, Rob Walker and Clem Adelman note how here "the teacher introduces… pupils into situations so selected or devised that they embody in implicit or hidden form principles or knowledge which [s]he wishes them to learn" [2].

Strands and Potential

Whilst inquiry takes different forms in different subjects, there will always be common strands, notably independent learning and information literacy. The latter itself includes various components, although today the importance of taking

a critical approach to the information we access is perhaps paramount, not only in academic situations but also in terms of gaining a wider, soundly based understanding of the world. It is true generally that the calibre of the raw material is crucial to the calibre of the outcome and, irrespective of the subject, learning is impeded if the information from which it is derived lacks quality. The ability of students to evaluate sources received special attention with the arrival of the Internet, then with the advent of social media and today, in the new age of AI, the origin of information is more of an issue than ever before. Consequently, information appraisal remains one of the biggest areas in the independent learning landscape.

It is illuminating to take a moment to return to the concept of "discovery learning", if only to contrast it with the potential of information literacy. In the words of The New Oxford Dictionary of English, "discovery" means to "become aware", e.g. of facts or situations [3]; drawing on the ideas of Christine Bruce, information literacy on the other hand may lead to "novel ideas" and "creative solutions", as well as simply the assembly of a personal knowledge base [4].

Choosing a Framework
In order to unite the practice of individual teachers promoting inquiry in different subjects, a framework may be embraced at a whole school level. Those that might be considered for adoption (or perhaps adaption) include

• the FOSIL approach advocated by Darryl Toerien [5];\

• the Guided Inquiry model put forward by Carol Kuhlthau, Leslie Maniotes and Ann Caspari [6];

• the Inquiry Cycle recommended by Carol Gordon [7];

• the Road Map academic planning aid of Richenda Gwilt and Kristy Widdicombe [8].

Drawing on a set of criteria I devised in 2004 for selecting a model for teaching information literacy [9], it may be suggested that any school contemplating using a framework to underpin the students' acquisition of inquiry skills throughout the organisation might benefit from assessing each that is available against

• its suitability for their youngsters with respect to their age/developmental stage and needs;

• its grounding in research/real situations in the classroom;

• the standing of the tool and its designer;

• precedents for its successful application, especially in similar schools;

• its congruence with existing practice in the organisation;

• support in relation to activities and resources associated with it.

Teachers keen to prepare their charges for the challenges that they are likely to face at university may also wish to ponder on how far the model they have in mind may be useful in Higher Education, thereby forging a certain continuity between the students' situations now and in the future.

Final Thoughts
In an era where there often seems an ever increasing expectation that schools must equip their young people with the skills necessary to cope with the growing complexities of the modern life, a central focus on inquiry offers an ideal opportunity both to bring under one roof a range of vital areas that emerge across the curriculum and to promote – in a way relevant to the real world – the education they deliver.

While concepts like "discovery learning" may offer comparable appeal, inquiry provides several compelling

attractions of its own. Experts taking different perspectives have created frameworks for promoting the process. Many are highly regarded with proven track records in academic environments. Inquiry is pervasive and most of the elements inherent in it, such as locating and using information and discriminating between sources of varying quality, are at the heart of the "finding out" tasks necessary to satisfy such diverse purposes as meeting scholarly obligations, pursuing personal interests, acting on curiosities and solving everyday problems. In short, inquiry is a skill for life.

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Programme for International Student Assessment (PISA) 2022

Tim Mangrove

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Creative Minds, Creative Schools. Volume 3 of the OECD's PISA research

By Tim Mangrove
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Abstract: *For the first time the OECD's PISA research has measured the creative thinking skills of 15-year-old students, assessing their ability to engage productively in the generation, evaluation and improvement of ideas. This report reviews the third volume of PISA.*

The long-awaited and much anticipated third volume of the OECD's Programme on International Student Assessment (PISA) programme was published in June 2024. Unfortunately, none of the UK countries took part in this aspect of PISA, so they do not feature in the tables below.

As Professor Andreas Schleicher, Director of the Education and Skills Directorate of the OECD, said in his forward, for the first time PISA has measured the creative thinking skills of 15-year-old students, assessing their ability to engage productively in the generation, evaluation and

improvement of ideas. As we navigate the complex environmental, social and economic changes of the 21st century. He said: "it is crucial for students to be innovative, enterprising and to use critical and creative thinking purposefully."

Many jobs, especially those in highly skilled fields, place a premium on creative thinking. According to the World Economic Forum's Future of Jobs 2023 report, creative thinking is ranked as the second most important skill for workers, just behind analytical thinking. Similar findings by companies like LinkedIn and Deloitte underscore the essential role of creative thinking in the modern workforce.

Today, workers are expected to contribute to change, to continually seek ways to leverage new technologies and adapt working methods to remain competitive. As digitalisation and artificial intelligence advance, the premium on innovation, creativity and critical thinking increases compared to routine skills, which are more susceptible to automation.

Yet creative thinking isn't only about remaining competitive in the job market. It also acts as a powerful stimulus to learning itself, deepening students' absorption in their learning, activating higher order cognitive skills and stimulating emotional development and resilience and well-being.

Despite its importance, we cannot take the development of creative skills for granted. In fact, OECD's 2023 survey of social and emotional skills showed that 15-year-olds tend to feel less creative and less self-aware than 10-year-olds. Developmental psychologists can explain part of that decline with adolescence, but the variability of this trend across countries is sufficiently large to suggest that education and the environment also play their part in this. While children are born with an abundance of creativity, always willing to learn, unlearn and relearn, school often reinforces compliance and rewards students for reproducing the established wisdom of our times, rather than questioning it.

While academic performance and creative thinking performance can be mutually supportive, they are not necessarily prerequisites for one another. In fact, while education systems such as Singapore, Korea and Canada* are among the highest performing systems in terms of both creative thinking and performance in mathematics, reading and science, four other high PISA-scoring systems – Czechia, Hong Kong (China)*, Macao (China) and Chinese Taipei – performed at or below the OECD average in creative thinking. Results even show that individual students can excel in creative thinking without excelling in core academic domains.

Not surprisingly, many students from disadvantaged backgrounds scored significantly lower than advantaged students in creative thinking. Many students in challenging environments deal with issues like food insecurity, housing instability and significant family responsibilities, which consume their time and energy, leaving little room for creative pursuits. In addition, teachers in under-resourced schools may prioritise standardised testing and basic skills to boost academic performance, unintentionally sidelining creative activities and practices. More needs to be done across PISA participating countries to tackle the socio-economic factors behind creative thinking gaps.

It is important to reiterate that creative thinking skills can be taught. Teachers can unlock student creativity by encouraging students to explore, generate and reflect upon ideas. It's no coincidence that high-performing systems PISA 2022 assessed 15-year-old students' capacity to think creatively, defined as the competence to engage in the generation, evaluation and improvement of original and diverse ideas. The PISA 2022 creative thinking data provide insights into how well education systems are preparing students to think outside the box in different task contexts.

Student performance in creative thinking
What students can do in creative thinking

• Singapore, Korea, Canada*, Australia*, New Zealand*,

Estonia and Finland (in descending order) are the highest-performing systems in creative thinking, with a mean score of 36 points or above – significantly above the OECD average (33 points). Students in Singapore score 41 points on average in creative thinking.

• There is a large performance gap in creative thinking between the highest-performing and lowest performing country of 28 score points – or around four proficiency levels. 97 out of 100 students in the five best performing countries performed above the average student in the five lowest performing countries (Albania**, the Philippines, Uzbekistan, Morocco and the Dominican Republic**).

• On average across OECD countries, around 1 in 2 students can think of original and diverse ideas in simple imagination tasks or everyday problem-solving situations (i.e. Proficiency Level 4). In Singapore, Korea and Canada*, over 70% of students performed at or above Level 4.

• In Singapore, Latvia*, Korea, Denmark*, Estonia, Canada* and Australia*, more than 88% of students demonstrated a baseline level of creative thinking proficiency (Level 3), meaning they can think of appropriate ideas for a range of tasks and begin to suggest original ideas for familiar problems (OECD average 78%). In 20 low-performing countries/economies, less than 50% of students reached this baseline level. Creative thinking performance and performance in mathematics and reading

• Most countries and economies that scored above the OECD average in creative thinking outperformed the OECD average in mathematics, reading and science. Only Portugal performed above the OECD average in creative thinking (34 points) but not significantly different from the average in the three PISA core domains. Czechia, Hong Kong (China), Macao (China) and Chinese Taipei performed at or below the OECD average in creative thinking despite scoring above the OECD

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average in mathematics, reading and science.

• In Chile, Mexico, Australia*, New Zealand*, Costa Rica, Canada* and El Salvador, students scored over 4.5 points higher than expected in creative thinking after accounting for their mathematics performance. In Singapore, Australia*, Canada*, Latvia*, Korea, Belgium, Finland and New Zealand*, students scored around 3 points or more higher than expected after accounting for their reading performance.

• Australia*, Canada*, Finland and New Zealand* combined high mean performance and overall relative performance in creative thinking (i.e. a large relative strength in creative thinking after accounting for students' reading and mathematics scores, respectively), with at least 75% of students reaching proficiency Level 3.

• Academic excellence is not a pre-requisite for excellence in creative thinking. While around half of all students who performed at the highest level in creative thinking performed at the highest level in mathematics, similar proportions of students (over one-quarter, OECD average) within the third quintile of creative thinking performance scored within the second, third and fourth quintiles, respectively, in mathematics. However, very few students below a baseline proficiency in mathematics excelled in creative thinking.

Performance differences across types of tasks

• Students in Singapore were the most successful across several task types, especially social problem solving tasks. Students in Korea were the most successful in scientific problem-solving contexts and evaluate and improve ideas tasks. Students in Portugal performed the most successfully in visual expression tasks
.
• In general, and after accounting for the difficulty of items across different task groupings, students demonstrated a

relative strength in creative expression tasks (both written and visual) compared to their performance across all other tasks, and a relative weakness in creative problem-solving tasks. Gender and equity gaps in performance

• In no country or economy did boys outperform girls in creative thinking, with girls scoring 3 points higher in creative thinking on average across the OECD. The gender gap is significant in all countries/economies after accounting for mathematics performance and in around half of all countries/economies even after accounting for students' reading performance.

• Students with higher socio-economic status performed better in creative thinking, with advantaged students scoring around 9.5 points higher than their disadvantaged peers on average across the OECD. In general, the strength of the association between socio-economic status and performance is weaker in creative thinking than it is for mathematics, reading and science.

• Gender and socio-economic differences in performance persist across all types of tasks. Girls performed particularly better than boys in written expression tasks and those requiring them to build on others' ideas, and socio-economic differences in performance are largest in the written expression domain. Students' beliefs and attitudes associated with creative thinking.

• Around 8 out of 10 students (OECD average) believe that it is possible to be creative in nearly any subject. Students with positive beliefs about the nature of creativity scored around 3 score points higher in creative thinking than other students. However, only around 1 in 2 students (OECD average) believe their creativity is something about them that they can change. Holding a growth mindset on creativity also positively relates to performance (+1 score point, OECD average).

• Indices of imagination and adventurousness, openness to intellect, curiosity, perspective taking and persistence are positively associated with creative thinking performance.

School environment

• Classroom pedagogies can make a difference. Across OECD countries, between 60-70% of students reported that their teachers value their creativity, that they encourage them to come up with original answers, and that they are given a chance to express their ideas in school. These students scored slightly higher than their peers in creative thinking, even after accounting for students and school characteristics nd their mathematics and reading performance.

• Participating in school activities such as art, drama, creative writing or programming classes regularly (once a week) is associated with better performance in creative thinking than doing so infrequently or every day.

Table III.1. Snapshot of performance in creative thinking

Countries/economies with a mean performance/variation of performance/share of top performers **above** the OECD average
Countries/economies with a share of low performers **below** the OECD average

Countries/economies with a mean performance/variation of performance/share of top performers/share of low performers **not significantly different** from the OECD average

Countries/economies with a mean performance/variation of performance/share of top performers **below** the OECD average
Countries/economies with a share of low performers **above** the OECD average

	Creative thinking performance					
		Relative performance[1] (i.e. score-point difference between actual and expected performance) based on performance in:		Variation uniquely associated with mathematics performance[2]	Top-performing and low-performing students	
	Mean score in creative thinking	Mathematics	Reading		Share of top performers (Level 5 or 6)	Share of students below the baseline (Level 2 or below)
	Mean score	Score dif.	Score dif.	%	%	%
OECD average	33	33	33	33	33	33
Singapore	41	2	4	29.7	57.8	5.7
Korea	38	3	3	26.8	45.9	9.8
Canada*	38	5	4	24.5	44.8	11.2
Australia*	37	5	4	30.3	42.7	11.9
New Zealand*	36	5	3	30.0	39.6	13.3
Estonia	36	1	1	31.1	34.3	11.0
Finland	36	3	3	35.3	39.0	16.6
Denmark*	35	2	3	32.0	31.3	10.2
Latvia*	35	3	3	23.6	26.4	8.4
Belgium	35	2	3	26.4	32.8	14.8
Poland	34	2	2	23.7	32.9	17.5
Portugal	34	3	2	36.4	29.4	17.0
Lithuania	33	1	1	31.0	26.4	20.5
Spain	33	1	1	26.9	25.4	20.0
Czechia	33	0	0	25.6	25.4	20.5
Germany	33	1	1	31.5	26.6	22.4
France	32	1	1	25.4	25.6	22.0
Netherlands*	32	0	2	26.8	27.8	24.1
Israel	32	3	1	31.8	30.3	24.9
Italy	31	0	-1	25.5	21.9	24.0
Malta	31	1	2	40.7	24.9	26.7
Hungary	31	0	-1	24.0	22.3	26.4
Chile	31	5	1	28.6	19.3	26.4
Croatia	30	0	-1	30.1	18.5	26.1
Iceland	30	0	2	35.6	21.4	28.3
Slovenia	30	-2	-1	16.8	16.3	26.5
Slovak Republic	29	-1	0	28.9	21.0	33.3
Mexico	29	5	3	29.3	13.8	30.0
Serbia	29	0	0	31.4	17.5	34.7
Uruguay	29	3	1	30.9	15.1	33.4
United Arab Emirates	28	1	2	39.7	24.3	39.1
Qatar	28	2	1	32.7	19.7	40.8

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	Creative thinking performance					
		Relative performance[1] (i.e. score-point difference between actual and expected performance) based on performance in:		Variation uniquely associated with mathematics performance[2]	Top-performing and low-performing students	
	Mean score in creative thinking	Mathematics	Reading		Share of top performers (Level 5 or 6)	Share of students below the baseline (Level 2 or below)
	Mean score	Score dif.	Score dif.	%	%	%
Costa Rica	27	5	1	m	10.8	35.8
Greece	27	0	-1	31.6	9.5	36.2
Romania	26	-1	-1	25.4	14.3	42.1
Colombia	26	3	0	28.4	11.9	45.3
Jamaica*	26	3	0	22.6	16.0	47.7
Malaysia	25	0	1	39.9	11.7	45.6
Mongolia	25	-2	2	33.4	7.7	45.6
Moldova	24	-2	-2	30.3	9.4	50.9
Kazakhstan	24	-3	0	21.9	11.5	52.6
Brunei Darussalam	24	-5	-4	37.9	10.9	51.9
Peru	23	0	-2	29.1	10.3	53.2
Brazil	23	1	-2	28.4	10.8	54.3
Saudi Arabia	23	0	0	37.5	9.0	54.0
Panama*	23	3	-1	20.9	6.8	53.0
El Salvador	23	5	1	25.8	8.7	55.5
Thailand	21	-3	-2	28.0	6.7	63.1
Bulgaria	21	-5	-5	27.1	7.8	61.4
Jordan	20	0	1	34.4	6.5	64.0
North Macedonia	19	-4	-2	32.5	7.7	66.1
Indonesia	19	-2	-2	23.7	4.8	68.8
Dominican Republic**	15	-3	-5	26.7	1.3	80.9
Morocco	15	-5	-4	41.9	5.2	76.7
Uzbekistan	14	-6	-4	40.8	1.7	83.5
Philippines	14	-5	-6	43.6	5.7	77.7
Albania**	13	-8	-8	34.7	2.9	84.2
Chinese Taipei	33	-4	-2	29.2	27.2	22.3
Macao (China)	32	-6	-3	37.1	22.4	23.1
Hong Kong (China)*	32	-5	-2	29.2	21.7	22.7
Ukrainian regions (18 of 27)	27	-1	-1	33.4	13.7	39.7
Cyprus	24	-2	1	33.9	10.4	52.5
Baku (Azerbaijan)	23	-1	1	34.2	7.7	56.4
Palestinian Authority	18	-2	-2	37.3	5.7	69.5

* Caution is required when interpreting estimates because one or more PISA sampling standards were not met. ** Caution is required when comparing estimates with other countries/economies as a strong linkage to the international PISA creative thinking scale could not be established (see Reader's Guide and Annex A4).
1: A student's relative performance in creative thinking is defined as the residual obtained upon a cubic polynomial regression of the student's performance in creative thinking over his or her performance in mathematics (reading). The regression is performed at an international level, pooling data from all countries and economies that participated in the creative thinking assessment. 2. Explained variance is the R squared coefficient from a regression of creative thinking score on mathematics performance, gender and students' and schools' socio-economic profile (ESCS). Variation uniquely associated with mathematics performance is measured as the difference between the R squared of the full regression and the R squared of the same regression without mathematics performance.
Note: Values that are statistically significant are marked in bold (see Annex A3). Countries and economies are ranked in descending order of the mean performance in creative thinking.

OECD PISA Vol. 4 - Financial literacy

By Tim Mangrove
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Key words: Financial literacy, socio-economically disadvantages students, financial products, gender differences.

Abstract: *This volume covers the financial literacy of students. Most 15-year-old students are already consumers of financial products and services, many still lack some of the skills and knowledge that are needed to make sound financial decisions for themselves. This publication suggests ways in which common issues can be addressed to improve students' financial literacy, and ultimately create the adequate conditions for students' financial well-being now and as they become adults.*

Hot on the heels of the publication of PISA 2022 Volume 3, PISA 2022 Volume 4 was published at the end of June 2024.. This volume covers the financial literacy of students.

As with volume 3 on creative thinking, the UK did not take part in this part of the PISA research. Relatively few

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countries did. Only 20 countries or territories took the optional papers on financial literacy, compared to the 81 countries that took part in the main PISA tests.

These latest PISA financial literacy results show that while most 15-year-old students are already consumers of financial products and services, many still lack some of the skills and knowledge that are needed to make sound financial decisions for themselves. This publication suggests ways in which common issues can be addressed to improve students' financial literacy, and ultimately create the adequate conditions for students' financial well-being now and as they become adults.

Countries and economies that take part in PISA are culturally diverse and have attained different levels of economic development. Nevertheless, they face a common challenge--to support children and young people, in particular the most vulnerable and low-performing ones, so they can reach their full potential as learners and human beings, and fully participate in economic life. Results from the PISA financial literacy assessment highlight that socio-economically disadvantaged students are overrepresented among low performers in financial literacy, calling for policy action to avoid inequalities rising as these students become adults. PISA provides the evidence and the policy insights that countries need to address these matters. There is an urgent need for action. The task for governments, the OECD believes, is to help education systems rise to this challenge.

On average across OECD countries and economies, 11% of students were top performers in financial literacy, meaning that they were proficient at Level 5. These students can analyse complex financial products and solve non-routine financial problems. More than 15% of students in the Flemish community of Belgium and the Netherlands were top performers in financial literacy, compared to less than 1% of students in Malaysia and Saudi Arabia.

On average across OECD countries and economies, 18% of students performed at or below Level 1. These students can, at best, recognise the difference between needs

and wants, make simple decisions about everyday spending and recognise the purpose of everyday financial documents, such as an invoice.

More than 45% of students in Brazil, Malaysia and Saudi Arabia performed at or below Level 1, compared to 11% of students in Denmark. Variations in students' performance in financial literacy within countries and economies.

• Socio-economically advantaged students performed better in the PISA 2022 financial literacy assessment than disadvantaged students by 87 points on average across OECD countries and economies, which is more than one proficiency level.

• Boys performed better than girls in Austria, Costa Rica, Denmark*, Hungary, Italy and Portugal, and girls outperformed boys in Bulgaria, Malaysia, Norway and the United Arab Emirates. There was no significant gender difference in the other 10 participating countries and economies. There were more boys than girls both among low performers and top performers on average across OECD countries and economies.

Financial literacy matters: students' spending and saving behaviours and attitudes

• On average across OECD countries and economies, 93% of students, reported that they had saved money at least once in the previous 12 months, from 85% in Saudi Arabia to 95% in Czechia, the Netherlands and the United States. On average across OECD countries and economies, 74% of students reported that they compare prices in different shops before buying something, from 60% in Saudi Arabia to 80% in Denmark and Portugal.

• On average across OECD countries and economies, 60% of students reported having bought something because their friends had it, from 36% in Costa Rica to 69% in Bulgaria,

Czechia and Norway.

• Students who performed at Level 4 or 5 in financial literacy were 50% more likely than those who cored at Level 1 or below to report that they compare prices in different shops before buying something, and 72% more likely to report having saved into an account or at home, on average across OECD countries and economies, after accounting for student characteristics, attitudes, and performance in mathematics and reading.

Students' interactions with their parents about money matters

• Most students reported talking to their parents about money matters. On average across OECD countries and economies, 64% of students reported talking to their parents weekly or monthly about their own spending decisions, with results ranging from 52% of students in Peru and Saudi Arabia to 71% of those in Norway.

On average across OECD countries and economies, students who reported discussing about their own spending decisions on a weekly or monthly basis performed 12 score points higher in financial literacy than those who reported never discussing these, after accounting for student characteristics

• Most students reported that they could independently decide what to spend their money on: 83% on average across OECD countries and economies, from 64% of students in Peru, to 91% of those in Denmark and Hungary. On average across OECD countries and economies and after accounting for student characteristics, these students scored around 30 points higher in the financial literacy assessment than students who did not report so.

Students' self-reported exposure to financial literacy in school

• More than two in three students, on average across OECD countries and economies, reported that they had learnt about a wage, a budget, or a bank loan in school over the preceding 12 months and still know what these terms mean. By contrast, only one in four students reported that they had learnt about compound interest in school and still know what this means, and fewer than one in five about diversification, on average across OECD countries and economies.

• Students who reported that they had learnt and still know these finance-related terms outperformed students who did not in the financial literacy assessment, on average across OECD countries and economies and after accounting for student and school characteristics, and students' performance in mathematics and reading.

• Students reported having been exposed to personal finance-related tasks in school mostly in mathematics classes, but also in social sciences, citizenship, economics, or business classes. Money and basic financial services: access, use and attitudes

• Many 15-year-olds participate in the financial system. On average across OECD countries and economies, 63% of students reported holding an account at a bank/financial institution, and 62% of students reported holding a payment/debit card. Over 80% of students in the Flemish community of Belgium, Denmark, the Netherlands and Norway reported holding an account or a payment/debit card, while students in Peru were amongst the least likely to hold either of these products.

• Students also reported experience with digital financial transactions. On average across OECD countries and economies, 86% of students reported that they had bought something on line in the previous 12 months (alone or with a

family member), and 66% of students reported that they had made a payment using a mobile phone.

• Holding an account at a bank, having bought something on line, and receiving gifts of money from friends or relatives were associated with greater financial literacy performance after accounting for student characteristics and other experiences with money and basic financial products.

Students' attitudes towards money matters

• On average across OECD countries and economies, 50% of students reported that they enjoy talking about money matters, but 36% of students reported that money matters are not relevant for them right now.

• Enjoying talking about money matters was associated with greater financial literacy performance on average across OECD countries and economies and after accounting for student characteristics and exposure to financial education at home and in school.

• On average across OECD countries and economies, 80% of students felt confident about their ability to manage their money, from 63% of students in Brazil to 86% in Portugal. Confidence was common across all levels of proficiency, with 64% of low performing students feeling confident about their financial skills, on average across OECD countries and economies, ranging from 45% of low performers in Bulgaria to 74% in Portugal.

From data to insights
These results show that there are wide variations among students in their financial literacy proficiency, and that students can learn about money matters in a variety of ways: from their parents, families and friends, at school, and from their experience with money and financial products. To tackle inequalities the report suggests using complementary

approaches involving various stakeholders to:

• Address the needs of low-performing students, to help them participate in economic life as they become adults.

• Tackle socio-economic inequalities in financial skills and behaviours as early as possible, to avoid them building up as students grow older.

• Focus on students' environment, including on parents and peers to leverage on their role and influence on students' financial behaviours and attitudes.

• Offer opportunities to acquire financial literacy in school to all students, regardless of their socioeconomic background.

• Ensure that opportunities to learn via access to and use of financial services are safe and age appropriate, including through robust financial consumer protection frameworks.

• Strengthen students' financial attitudes in addition to their knowledge and skills, to foster interest in money matters and prevent overconfidence.

Students' proficiency in financial literacy

Students should be better prepared for their financial future

Percentage of students above or below basic proficiency in financial literacy

Students performing below Level 2 are not yet able to apply their knowledge to real-life situations involving financial issues and decisions

Socio-economic background explains 12% of the variation in financial literacy performance

Socio-economic status explains 19% of the variation in financial literacy performance in Peru, and 7% in Norway

More than two-thirds of students use financial services

83% said they held an account with a bank, building society, post office or credit union

62% said they hold a payment or debit card

66% said they made a payment using a mobile phone in the previous 12 months

86% said they bought something online (alone or with a family member) in the previous 12 months

On average across participating OECD countries/economies

Financial literacy is associated with positive financial behaviours among students

High performers in financial literacy were more likely than low performers to report:

72% Having saved money

50% Having compared prices in different shops before buying something

Students performing at level 4 or 5 in financial literacy compared to students performing at or below level 1, on average across participating OECD countries/economies, during the previous 12 months, after accounting for student characteristics, attitudes, and performance in mathematics and reading.

Students' performance in financial literacy is related to family interactions

64% of students reported that they discuss their own spending decisions with their parents weekly or monthly

These students scored 12 points higher than those who never discuss this with their parents*

83% of students reported that they can decide autonomously what to spend their money on

These students scored 20 points higher than those who cannot decide independently*

Exposure to finance-related terms in school is associated with higher financial literacy performance

Percentage of students who reported that they have learnt the following terms in school and still know what they mean

Budget 70%
Bank loan 68%
Compound Interest 25%
Diversification 18%

Score-point difference in financial literacy performance associated with knowing each of these terms*

The triangle of lifelong learning: Strategies, motivation, and self-belief. OECD PISA Volume 5

By Tim Mangrove

Director of Research at the Education Publishing Company Ltd.

Abstract: *This is the fifth and final volume of the OECD's PISA research programme for the 2022 round of tests. It focuses on lifelong learning. COVID 19 had a negative impact here as well. While schools did their best, significant learning gaps became apparent that had implications for life and learning after school. Significant strategies include asking questions, critical thinking and developing the habit of proactively connecting something new they have just learned to something they already know is crucial.*

The COVID-19 pandemic taught us that education systems must prepare students for a future marked by profound environmental, social and economic changes. It forced education systems to adapt quickly to constraints imposed by the virus. Schools did their best but PISA 2022 revealed significant learning gaps.

Tim Mangrove

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We must rethink teaching and learning to better equip students for an uncertain future. Building young people's resilience in a changing world requires an aptitude for lifelong learning. PISA provides important insights into how well 15-year-olds are prepared for learning beyond compulsory schooling. The data shed light on how students adopt and use key learning strategies; how motivated they are to learn; and how confident they are that they can acquire, synthesise and employ new knowledge through study and effort.

How students do with key learning strategies

• Asking questions is key to learning. But less than half of students (47%) ask questions often when they do not understand something being taught in mathematics class, on average across the OECD. Only in Iceland, do more than 60% of students ask questions more than half of the time when they are not sure of something being taught. In Macao (China), Poland, Chinese Taipei and Thailand, fewer than one in three students do.

• Critical thinking or perspective-taking is another important learning strategy. This involves considering other people's perspectives before forming one's own opinions and viewing issues from different angles. Less than 60% of students employ critical-thinking strategies, on average. And, top performers show more flexible critical thinking.

• Helping students develop the habit of proactively connecting something new they have just learned to something they already know is crucial. Yet, less than half of students reported that they do this in mathematics lessons more than half of the time.

• Students who regularly use these learning strategies tend to outperform those who do not, even after accounting for students' and schools' socio-economic profile.

• Girls and socio-economically advantaged students in most education systems consistently reported using learning strategies more often than boys and socio-economically disadvantaged students. Motivation and predispositions encourage the uptake of learning strategies

• Intrinsic motivation like enjoying learning new things in school consistently predicts the uptake of learning strategies, even after accounting for students' and schools' socio-economic profile. But, only around a half or less of students in OECD countries reported being intrinsically motivated. In Guatemala, Peru and Viet Nam, over 85% of students enjoy learning new things at school but less than a third do in Czechia and Poland.

• Growth mindsets are strongly linked to positive learning strategies, attitudes, and outcomes. While 58% of students said they have a general growth mindset, only 35% of students reported a mathematics specific growth mindset.

• Co-operation is the social and emotional skill most strongly related to critical-thinking attitudes. This relationship is particularly strong in top-performing Hong Kong (China)*, Korea, Singapore and Chinese Taipei.

• The anxiety students say they experience doing mathematics has grown since 2012, the last time mathematics was PISA's focus subject. This can impact their well-being and readiness for lifelong learning. But systems can work against this trend: anxiety levels fell in Singapore and Thailand, and, most significantly, in Korea between 2012 and 2022.

• Gender stereotypes about learning mathematics continue. Boys are more likely to report a growth mindset in mathematics than girls by an average of 7 percentage points. Girls also reported higher levels of mathematics anxiety than boys, even among top-performing students. The role of

autonomy in sustained lifelong learning

• Fifteen-year-olds feel most confident finding resources online on their own. More than 85% of students in Italy and Croatia are confident they can find the online information they need while in Japan, less than half are (OECD average 73%).

• However, being able to easily judge the quality of online information is a major challenge (OECD average 51%). This is especially so among low performers: 60% cannot easily gauge the quality of online information. Among skilled performers, 57% can do this easily, on average.

• The connection between finding online information and looking for reliable verification of the accuracy of such information is not straightforward: less than 50% of students, on average, discuss the accuracy of online information with their teachers or in class.

• Students who check the quality, credibility and accuracy of online information are more likely to be meticulous, critical thinkers, and proactive learners who make connections between what they learn and what they know. They are also more likely to be intrinsically and instrumentally motivated to learn.

Learning for the 21st century and the future

• Students who are proactive learners that make connections between new material and what they ave learned before; who always make sure they have understood what is being taught; and who say they are cognitively activated in the classroom are most likely to be confident in their 21st-century mathematics skills.

• Only about a third of students are exposed to 21st-century mathematics tasks like frequently extracting mathematical

information from diagrams or graphs and one in five to applying mathematical solutions to real-life situations.

• Cognitive activation practices such as encouraging students to think about different ways of solving problems and explaining their reasoning are strongly associated with confidence in 21st-century mathematics.

• Proactive students who link what they are learning to what they already know are particularly confident representing, extracting and interpreting mathematical information, even in real-life situations.

Students' family and learning environments matter
• Students who interact with their parents on an ordinary, everyday basis and have conversations with them about learning and school employ more learning strategies and are more motivated to learn, even after accounting for students' and schools' socio-economic profile.

• Students who are well-supported by their teachers are often more proactive in learning mathematics. They also use critical-thinking skills more, take control of their learning and have more motivation to learn.

• Students suffering from food insecurity are less likely to use self-regulated learning strategies and, generally, are more passive learners.

• Students holding part-time jobs tend to feel more positive and motivated about learning. A snapshot of learning strategies for the OECD member states and partner economies is shown in the table on the next two pages.

Countries with an asterisk * are adjudicated entities not meeting the sampling standards. The results of 12 adjudicated entities (i.e. countries, economies and regions within countries), listed in the table with an asterisk are reported

with annotations in the OECD volume. Caution is required when interpreting estimates for these countries/economies because one or more PISA sampling standards listed below were not met. The following is also relevant.

• Overall exclusion rate. Standard 1.7: The PISA Defined Target Population covers 95% or more of the PISA Desired Target Population. That is, school-level exclusions and within-school exclusions combined do not exceed 5%.

• School response rate. Standard 1.11: The final weighted school response rate is at least 85% of sampled schools. If a response rate is below 85% then an acceptable response rate can still be achieved through agreed-upon use of replacement schools.

• Student response rate. Standard 1.12: The student response rate is at least 80% of all sampled students across responding schools. The 12 entities can be grouped into two categories:

(i) Entities that submitted technically strong analyses, which indicated that more than minimal bias was most likely introduced in the estimates due to low response rates (falling below PISA standards): Canada, Ireland, New Zealand, the United Kingdom and Scotland.

(ii) Entities that did not meet one or more PISA sampling standards and it is not possible to exclude the possibility of more than minimal bias based on the information available at the time of data adjudication: Australia, Denmark, Hong Kong (China), Jamaica, Latvia, the Netherlands and Panama.

Table 1A. Snapshot of learning strategies, first part of list

Countries/economies with values above the OECD average
Countries/economies with values not significantly different from the OECD average
Countries/economies with values below the OECD average

	Percentage of students reporting:							
	Controlling one's own learning			Critical thinking (perspective-taking)		Proactive learning	Cognitive activation	
	More than half of the time, students....	Students agree or strongly agree....		Students agree or strongly agree....	Students disagree or strongly disagree....	More than half of the time, students....	More than half of the lessons....	
	...ask questions when they do not understand the mathematics material	...they like to make sure there are no mistakes	...they carefully check homework before turning it in	...they try to consider everybody's perspective before they take a position	...there is only one correct position in a disagreement	...try to connect new material to what they have learned in previous mathematics lessons	...the teacher asks students to explain their reasoning when solving a mathematics problem	...the teacher asks students to think about how new and old mathematics topics are related
	%	%	%	%	%	%	%	%
OECD average	46.8	64.2	44.3	58.9	45.8	45.6	46.1	31.2
Iceland	61.6	63.2	46.7	42.9	36.7	48.4	28.3	20.6
Albania	59.3	74.8	67.7	55.0	21.8	60.8	53.4	47.5
Uzbekistan	59.1	75.8	76.5	73.0	22.2	58.7	48.3	49.5
Costa Rica	57.2	77.0	74.0	66.6	25.0	52.5	41.0	34.7
Israel	57.2	m	m	m	m	50.1	48.6	33.1
Denmark*	56.6	58.5	42.8	56.9	50.2	42.8	39.5	21.1
Guatemala	55.5	74.6	74.7	m	m	58.0	44.9	49.0
Sweden	55.1	m	m	m	m	48.6	52.3	26.2
United Arab Emirates	54.7	70.9	65.6	64.1	30.2	53.0	51.1	40.6
Canada*	54.6	62.1	45.5	62.0	48.1	53.8	55.4	35.3
Paraguay	54.6	73.3	70.9	m	m	48.0	31.7	35.3
Singapore	54.6	64.0	42.5	72.3	56.6	48.8	51.4	43.8
Australia*	54.4	57.3	36.1	61.5	44.4	49.7	54.6	32.7
Colombia	53.0	72.4	70.4	69.7	27.4	55.6	46.5	46.5
United States*	52.5	m	m	m	m	53.2	56.0	33.7
Dominican Republic	52.4	71.6	70.8	65.9	28.4	51.3	48.4	47.4
Uruguay	52.2	63.5	55.7	56.9	36.1	49.6	46.3	34.3
Kazakhstan	52.0	63.6	60.2	56.2	40.5	54.2	51.6	42.9
Austria	51.7	59.0	38.5	56.1	57.1	53.0	48.2	32.2
New Zealand*	51.5	52.4	45.4	56.7	43.5	42.1	53.1	24.0
Switzerland	50.7	60.5	34.6	57.6	52.8	45.9	48.3	32.4
Jamaica*	50.6	70.1	64.3	61.9	34.0	47.8	54.4	41.4
Chile	50.6	69.4	59.1	62.9	29.3	53.1	45.8	41.1
Spain	50.3	70.4	42.8	56.3	46.7	46.8	46.4	28.0
Germany	50.3	62.3	37.3	57.8	55.1	47.4	54.2	36.2
Qatar	50.1	65.0	54.6	57.5	29.2	50.4	46.8	39.9
Panama*	49.8	70.5	72.4	68.5	24.5	57.5	45.9	44.9
El Salvador	49.8	70.1	71.8	66.0	25.1	52.0	40.2	43.1
United Kingdom*	49.4	55.7	32.9	53.0	42.4	44.9	59.6	34.7
Netherlands*	49.0	65.5	27.4	42.7	51.9	39.9	41.6	18.7
Malta	48.2	59.7	36.8	62.3	40.0	49.6	56.3	30.9
Ireland*	48.2	56.2	36.3	58.4	57.8	46.0	57.0	30.1
Georgia	47.4	66.9	55.2	56.3	37.3	50.2	54.3	41.0
Italy	47.2	70.6	48.0	59.4	37.3	39.9	57.3	32.7
Belgium	46.7	64.1	41.7	52.8	52.3	38.5	46.3	28.2
Norway	46.6	m	m	m	m	43.2	52.3	28.8
Mongolia	46.6	86.9	52.2	74.7	28.6	43.0	33.6	38.4
North Macedonia	46.6	69.4	55.1	56.0	26.2	51.4	41.5	35.9
Peru	46.4	71.0	71.6	71.1	25.7	54.2	53.9	52.3
Indonesia	46.4	85.2	77.2	55.8	18.3	42.3	34.3	35.2
Portugal	46.1	72.1	49.4	80.1	65.2	48.5	55.9	41.0
Jordan	45.5	67.2	61.1	43.5	23.3	48.9	26.8	31.0
Morocco	45.4	71.6	66.4	61.3	29.8	41.1	34.3	34.0

Table 1B. Snapshot of learning strategies, second part of list

Countries/economies with values above the OECD average
Countries/economies with values not significantly different from the OECD average
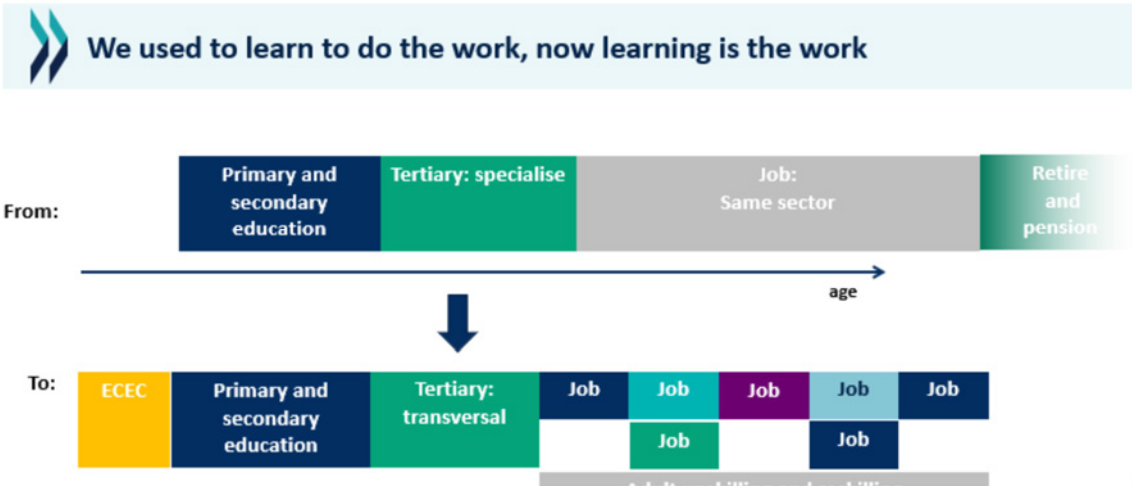Countries/economies with values below the OECD average

	Controlling one's own learning			Critical thinking (perspective-taking)		Proactive learning	Cognitive activation	
	More than half of the time, students...	Students agree or strongly agree...		Students agree or strongly agree...	Students disagree or strongly disagree...	More than half of the time, students...	More than half of the lessons...	
	...ask questions when they do not understand the mathematics material	...they like to make sure there are no mistakes	...they carefully check homework before turning it in	...they try to consider everybody's perspective before they take a position	...there is only one correct position in a disagreement	...try to connect new material to what they have learned in previous mathematics lessons	...the teacher asks students to explain their reasoning when solving a mathematics problem	...the teacher asks students to think about how new and old mathematics topics are related
	%	%	%	%	%	%	%	%
OECD average	46.8	64.2	44.3	58.9	45.8	45.6	46.1	31.2
Moldova	45.0	70.8	54.7	58.9	31.5	46.1	33.3	33.9
Saudi Arabia	45.0	78.4	71.9	66.6	23.6	45.2	37.1	33.2
Lithuania	44.9	55.1	40.9	52.5	34.1	46.5	34.9	34.6
Greece	44.1	70.3	52.3	63.8	55.7	49.3	53.3	23.9
Argentina	43.1	62.0	59.6	53.2	30.7	39.7	41.9	37.4
Türkiye	43.0	66.4	69.8	75.2	47.4	49.2	39.6	29.7
Latvia*	42.8	59.0	28.9	53.9	49.8	43.2	43.5	33.9
Slovak Republic	42.7	67.9	49.2	57.4	54.0	44.4	39.6	34.6
Hungary	42.7	54.5	34.2	62.2	48.6	43.2	49.4	27.6
Bulgaria	41.7	52.1	43.4	63.9	40.8	47.3	46.6	44.5
Malaysia	41.7	66.4	63.6	56.0	25.7	35.6	30.8	32.5
Mexico	41.2	68.0	65.5	70.4	22.4	51.3	48.0	44.6
Serbia	41.1	68.3	45.0	60.7	30.3	47.8	36.4	36.2
Viet Nam	40.5	77.0	74.6	m	m	59.2	42.2	48.1
Estonia	40.3	53.4	36.0	63.5	49.0	41.4	38.7	24.5
France	39.7	65.8	50.0	63.9	47.8	36.1	54.9	36.4
Finland	39.7	59.6	23.9	48.5	53.8	41.2	34.9	20.4
Brazil	39.6	69.9	59.1	62.1	38.9	41.5	36.0	33.4
Montenegro	39.4	64.7	51.4	55.0	26.5	48.7	34.1	36.8
Philippines	39.4	60.8	71.7	62.3	24.6	39.4	46.5	40.8
Cambodia	39.4	67.1	78.5	m	m	32.8	37.4	43.2
Brunei Darussalam	39.1	61.9	52.9	56.7	21.4	36.2	43.6	31.8
Japan	37.7	m	m	m	m	27.2	51.8	42.8
Croatia	37.7	50.5	38.1	57.4	32.0	47.6	34.2	38.2
Czechia	36.7	62.4	35.4	48.9	43.4	42.9	37.4	26.9
Romania	35.8	70.2	43.6	59.3	30.4	45.8	35.5	36.7
Slovenia	35.1	60.6	30.5	58.0	44.5	47.4	34.5	30.4
Korea	33.8	89.6	58.9	68.7	45.5	43.0	25.5	24.6
Thailand	29.8	72.9	63.8	65.0	19.4	31.9	29.1	27.7
Poland	26.8	72.6	34.0	43.6	46.5	35.9	32.3	28.6
Baku (Azerbaijan)	56.2	64.6	52.1	50.5	28.1	57.8	51.6	49.0
Cyprus	49.1	60.0	39.0	55.3	46.9	49.3	50.4	33.4
Kosovo	47.4	75.8	66.5	43.6	26.0	50.8	38.1	36.5
Palestinian Authority	43.0	72.2	64.6	49.1	22.5	47.7	31.2	37.9
Ukrainian regions (18 of 27)	36.4	59.5	40.9	56.0	34.7	39.5	45.7	41.9
Hong Kong (China)*	34.9	52.1	37.0	64.1	41.6	35.5	39.0	32.9
Macao (China)	31.0	50.2	40.0	64.9	42.5	31.1	40.7	33.0
Chinese Taipei	23.5	62.2	38.0	65.9	49.5	29.5	30.7	27.1

The launch of PISA Volume 5

Further details from the area covered by volume 5 of PISA were revealed at a conference in the United Arab Emirates by Professor Andreas Schleicher, Director of Education and Skills at th OECD. As he explained, lifelong learning was the key to solving the problems caused by the COVID-19 pandemic whose negative impact was still being felt in most education systems around the world. The fifth volume of PISA, *Learning Strategies and Attitudes for Life,* looked at how well people

will be able to learn in future. Professor Schleicher thought that in future early years childhood education would be more important than it is now, as what was learned in the first few years of life would increasingly determine how successful people were at mastering the strategies for lifelong learning. Universities would develop into the merger of work and learning. At present people go to university largely to learn for work. In future, learning will be the work.

College entrance is merely one point in life and the

We used to learn to do the work, now learning is the work

| From: | Primary and secondary education | Tertiary: specialise | Job: Same sector | | | | Retire and pension |

age

| To: | ECEC | Primary and secondary education | Tertiary: transversal | Job | Job | Job | Job | Job |
| | | | | | Job | | Job | |

academic credentials alone will lose currently in the changing job market, calling for more creativity and entrepreneurship mindsets to be fostered in the education system. People will need to be ready to change jobs throughout their lives.

Unintended negative consequences of the current college entrance exam system (e.g. long studying hours including private tutoring, test anxiety, lack of happiness, lack of self-efficacy etc.) are costly for the country, not being able to use its human capital to its full potential. Integrating ECEC and early years of primary schooling (e.g. pre K-3/ age 0-10) to ensure (a) smooth transition from ECEC to primary schooling as well as (b) smooth transition from "learning to read" to "reading to learn".

A major problem with today's workforce is that too many adults are not learning. Only 4 out of 10 adults were

involved in some form of learning or further job-related training. Most of the 6 out of 10 not involved in learning said that this was because they did not think they needed to learn anything new,according to the OECD's adult education research programme PIAAC.

Managing our learning behaviour
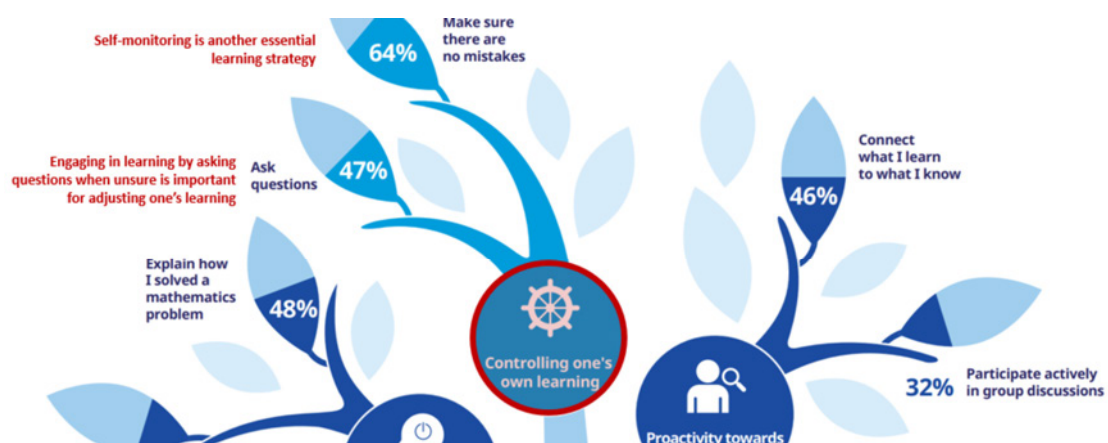
Professor Schleicher felt that increasingly we needed to manage our learning behaviour. The world of GPT rewards people for asking the right questions, he said. Those who did well in PISA tests were those who asked questions. Skilled performers asked questions. They had a growth mindset which he thought was essential.

Critical thinking was important, the ability to consider things from everyone's perspective. Being able to see solutions to problems from more than one perspective was crucial. Proactive students did better in PISA. "Students must not be passive consumers of knowledge," Professor Schleicher said. He explained that proactive activisation practices predict maths performance in PISA. (The 2022 round of PISA had a focus on maths. Professor Schleicher later told Education Journal that the same was also true for other subject areas.) In turn social and emotional skills predict the use of learning strategies.

Teacher support was also a critical factor in ensuring good student outcomes. Acrosss almost all countries and

Students with intrinsic motivation enjoy challenging work and learning new things

They are also:

3x more likely
to make sure there are no mistakes in their school work

2x more likely
to ask questions if they don't understand

?

3x more likely
to check their homework

3x

This shows the value of fostering student interest in learning

economies in the OECD and associated territories, when teachers helped students the students paid more attention. Students became more motivated when they received teacher support.

Research found that the role of parents was also important. It was not that a parent needed to spend hours helping with homework or project work. "Show kids that what they do matters to you," was the advice Professor Schleicher had for parents. Self-directed learning would be the key skill to master in future, Professor Schleicher said. self-directed learning is learning for life. Students would be directed when they were at school, but once you left school you were on your own.
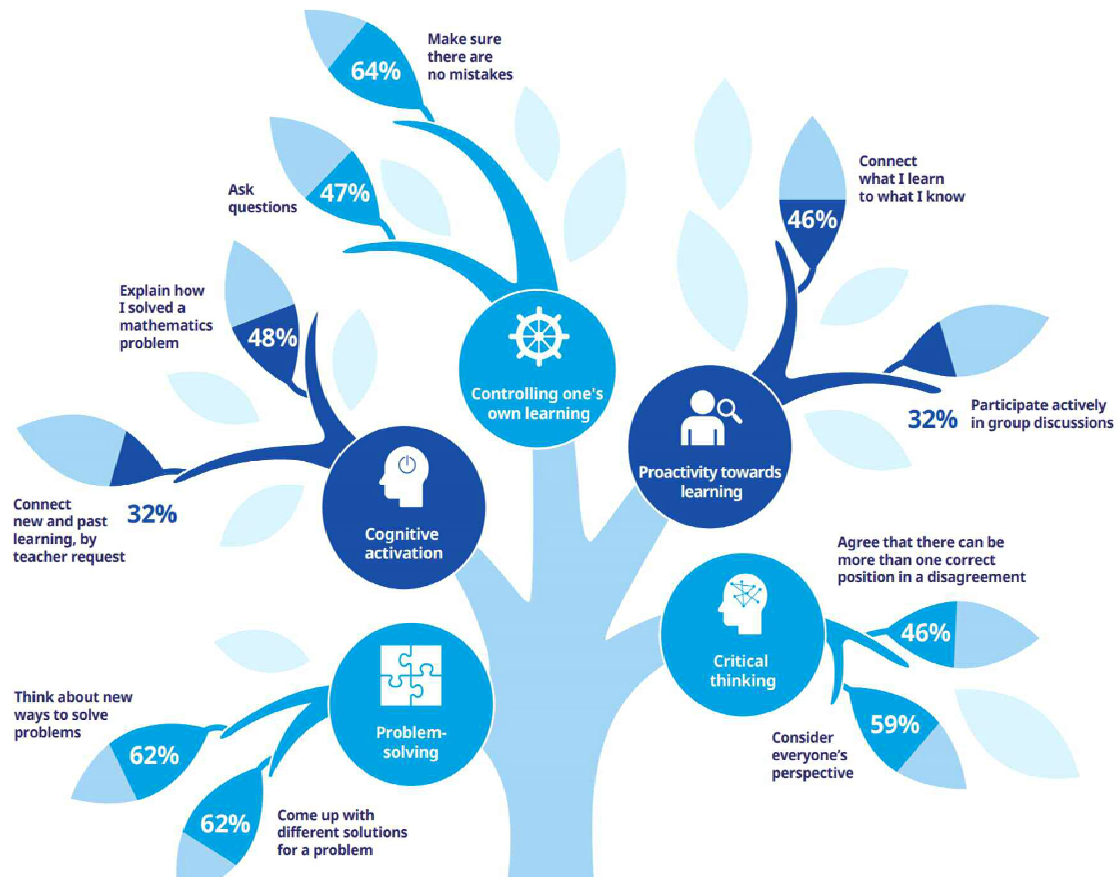
With the grown of social media and internet use, a growing problem was the spread of inaccurate and biased information, whether the deployment of deliberately false information or conspiracy theories of ever more outlandish explanations. The recent American elections had seen a huge rise in false information.
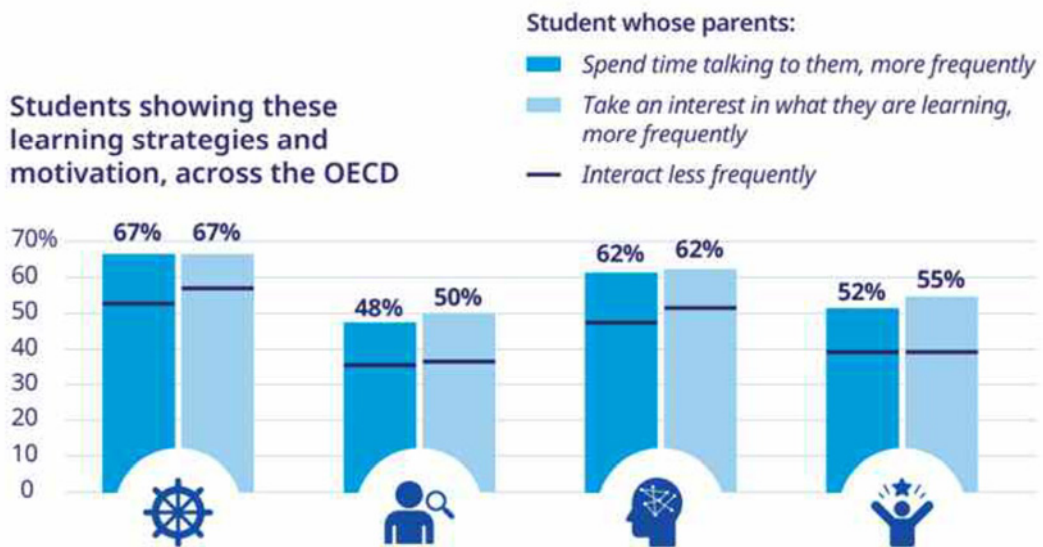
At present, OECD research from PISA showed that fewer than half of students discussed the accuracy of on-line content with their teachers. This exacerbated the problems of increasing questioning of main stream media, the increasingly professional look of home originated content and the growing problem of action by bots controlled by bad actors at home and abroad.

The graphic on the next page illustrate the importance

of students interacting with parents. Time spent with parents showing that they cared about what their child was doing was more important than specific things like helping with homework.Using spare capacity in schools for new

In most countries and economies, students who **interact with their parents** more often engage with learning strategies and are more **motivated to learn**

Students showing these learning strategies and motivation, across the OECD

Student whose parents:
- Spend time talking to them, more frequently
- Take an interest in what they are learning, more frequently
- — Interact less frequently

67% 67%
48% 50%
62% 62%
52% 55%

Dr Gillian Paull and Nick Fitzpatrick

Dr Gillian Paull is a Senior Associate at Frontier Economics and its public policy practice where she undertakes research on the labour market and family-related policy for a variety of government departments and non-governmental organisations.

Nick Fitzpatrick is Manager of Frontier Economics which he joined in 2015. He specialises in quantitative evaluation of interventions in order to establish the causal impact of policy.

Using spare capacity in schools for new nurseries: do the numbers add up?

By Dr Gillian Paull and Nick Fitzpatrick
Senior Associate and Manager, Frontier Economics

Key words: Nursery, schools, Free Early Education Entitlement, reception.

Abstract: *The new Labour government plans to deliver the plans of the previous Conservative government to expand nursery provision by conventing spare capacity in primary schools as school rolls decline in top nursery places. But do the sums add up? In theory, spare school capacity could comfortably accommodate demand. But in practice the reality on the ground is unlikely to be so beneficial. while spare capacity in reception classes could make a substantial contribution to new nursery provision, flexibility to combine spare space across multiple year groups would be required to meet it entirely.*

To help deliver new free childcare places for working parents, the government proposes to convert growing spare capacity in primary schools in England into more than 3,000 new nurseries. Using government data, the researchers at Frontier Economics have explored whether the numbers add up to allow this to work. They have examined where in the country the spare capacity will be situated, and whether this matches where demand for new places will be. They have also considered whether spare capacity will be sufficiently concentrated within individual schools to make new nurseries feasible.

The expansion of government support for childcare In the Spring Budget of 2023, the Chancellor announced that the Free Early Education Entitlement in England would be extended to further support parents to work. The offer of 30 hours of childcare per week over 38 weeks per year for working parents [1] would be extended from children aged three and four to those aged nine months and up, in a phased rollout beginning in April 2024 and finishing in September 2025. [2]

The new Labour government will continue the rollout of this extension. It proposes to support delivery by using spare space in primary school buildings freed up by declining pupil numbers to create 3,334 new nurseries with 100,000 extra nursery places for areas that cannot meet demand. They estimate this will cost £40,000 per classroom – a total of around £140 million. [3[[4]

Could spare school capacity meet demand for nursery places? According to government estimates, the expansion of the Free Early Education entitlement will require nearly 78,000 new nursery places by September 2025. [5] Total pupil numbers in state primary schools in England are projected to fall by just over 100,000 between September 2022 and September 2025, [6] so on the face of it, spare school capacity could comfortably accommodate demand. Pupil numbers in primary schools are also projected to fall by an additional 100,000 by September 2027, making the government's proposal seem even more sound. [7][8]
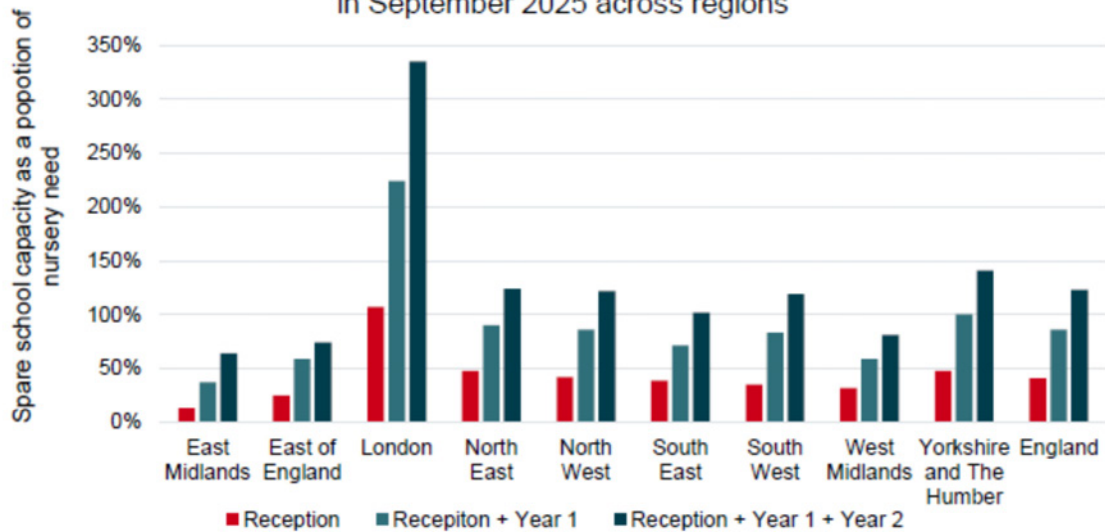
But these headline numbers assume that primary schools can flexibly move children across the seven year groups from reception to Year 6. This seems unrealistic for most schools. It is more likely that the use of spare space for nursery provision will be restricted to the youngest classes, where mixing across age groups could be feasible. [9]

Pupil numbers in reception classes are projected to fall by around 32,000 between 2022 and 2025. This would equate to only 41% of new demand for nursery places. But adding spare capacity from Year 1 and then Year 2 raises this number to 67,000 and then 96,000 (86% and 123% of estimated new

nursery demand respectively).

However, pupil numbers in these infant classes are not projected to fall substantially between 2025 and 2027, and spare capacity is unlikely to increase much immediately beyond 2025. [10] So, while spare capacity in reception classes could make a substantial contribution to new nursery provision, flexibility to combine spare space across multiple

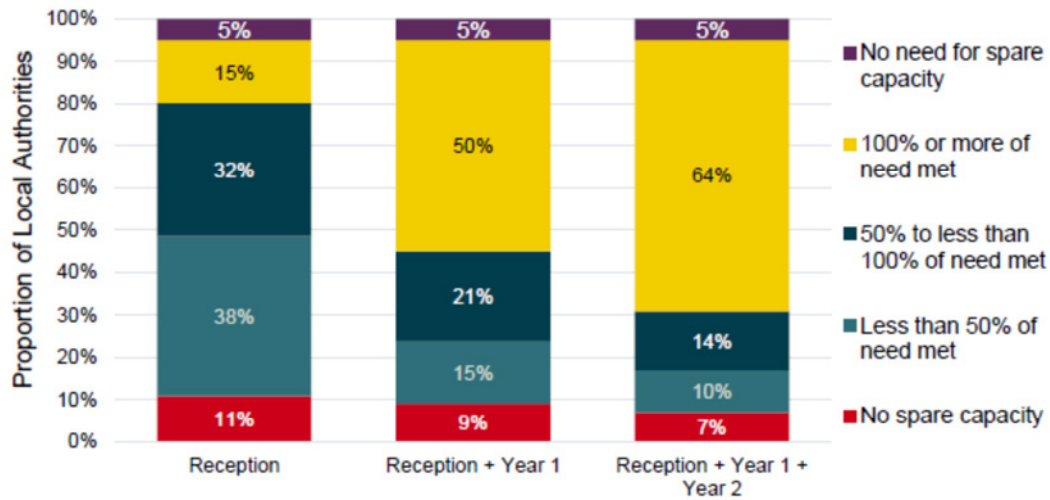Figure 1: Spare school capacity as a proportion of new nusery need in September 2025 across regions

Source: Frontier calculations using DfE data on estimated nursery need from DfE early-years-places-and-workforce-nee on projected numbers of school pupils from education-statistics.service.gov.uk.

year groups would be required to meet it entirely.

Will there be spare capacity in the right areas of the country?

Even if the national numbers add up, there is the question of whether spare capacity will be situated in the areas that need it the most. Geographical matching is crucial: spare school space cannot be transported to where it is needed and parents are generally unable to travel long distances for childcare. But our study shows that matching across regions is poor (Figure 1). London is the only region in which projected

Figure 2: Spare school capacity as a proportion of new nursery need in September 2025 across Local Authorities

Source: Frontier calculations using DfE data on estimated nursery need from *DfE early-years-places-and-workforce-need* on projected numbers of school pupils from *education-statistics.service.gov.uk*.

spare reception space alone could meet the estimated additional demand for nursery places. In five other regions, reception space meets less than half of the expected nursery need but adding spare capacity from Years 1 and 2 could mean demand is satisfied. Then there are three regions in which only a small proportion of demand can be met with reception space alone (13% in the East Midlands, 25% in the East of England and 32% in the West Midlands). Even when capacity from Years 1 and 2 is added in these regions, total capacity still falls substantially short of meeting new nursery demand.

Moving from regional level to Local Authority (LA) level, it is estimated that 5% of LAs will have no need for additional nursery places, while reception space alone could meet the estimated new nursery demand in 15% of LAs (Figure 2). However, reception space alone could meet less than half of the new demand in just under half (49%) of LAs, while just over one in ten (11%) LAs are projected to have no spare capacity in reception classes.

If reception space could be combined with Year 1

space, half of LAs would have sufficient space to meet the new nursery demand, rising to just under two-thirds (64%) if Year 2 spare capacity could be added too. But even combining spare space across all three infant groups, 17% of LAs would still not be able to meet even half the need for new places (and 7% would have no spare capacity at all). Overall, spare capacity in state primary schools will only be sufficient to meet new nursery demand in most areas if schools are able to combine the spare spaces from declining pupil numbers across several age groups. But even this combined spare school capacity will not be enough to meet demand in some regions.

Do the numbers add up for individual schools?
There is another challenge: would spare capacity be sufficiently concentrated within individual schools to allow them to open new nurseries? The Government's proposal – to create 3,334 nurseries that offer a total of 100,000 childcare places – assumes an average of 30 places per nursery. We therefore explored whether the average (mean) number of spare places per state primary school 11 would be sufficient to offer this.

Nationally, the average number of spare places per school is projected to be two for reception, four for reception and Year 1 combined, and six when reception, Year 1 and Year 2 are combined. While there is no minimum number of places a nursery has to offer, these low levels are unlikely to be viable for opening new settings – and fall far short of the 30-place target.

Consistent with the spare capacity patterns shown in Figure 1, the numbers of spare places per school are particularly low in the East Midlands and East of England, and highest in London (Figure 3). No region is projected to have more than four spare places per school from reception classes, while only three regions (London, the North East, and Yorkshire and the Humber) have an average number of spare places above six when combining all three nursery classes.

This suggests that the policy might work better in

London than in other regions. But the substantial excess supply of spare capacity in London could also mean that the demand is spread thinly across schools, and that individual schools find there is insufficient demand for their new nursery places.

At the local level, no LA has ten or more spare places per school from reception classes alone (Figure 4). [12] Figure 2 showed that 15% of LAs had spare capacity from reception classes which met or exceeded the estimated new demand, but around half of these have five to ten spare reception places per school and around half have fewer than five places per school.

Even combining spare space across all nursery classes, less than a third (30%) of LAs have an average of ten or more spare places per school. Most of the remaining 34% of LAs with spare capacity meeting or exceeding the estimated new demand have an average of five to ten places per school, on the margins of viability for a new nursery. However, as with London at the regional level, schools in areas where spare capacity outstrips new demand may find that there is insufficient demand fill their new nursery places.

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These findings at the school level highlight the fact

that both spare capacity and demand for new places must be sufficiently concentrated to make opening new nurseries viable. Areas with low levels of spare capacity might benefit from LA management to reconfigure school space. Areas with high spare capacity exceeding estimated new demand, might benefit from LA management to control the numbers and
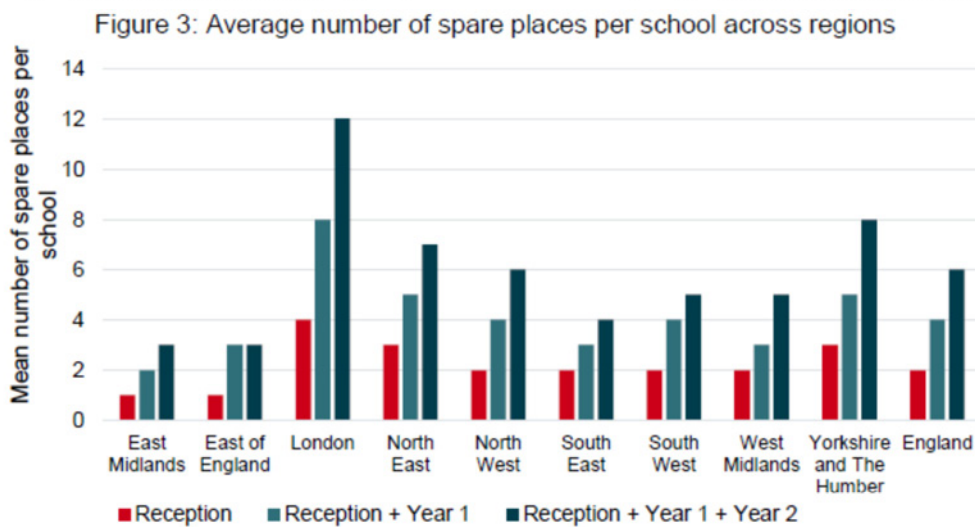
Figure 3: Average number of spare places per school across regions

Source: Frontier calculations using DfE data on the projected numbers of school pupils from education-statistics.service.gov.uk and numbers of schools in each LA from explore-education-statistics.

Why create new nurseries rather than expand existing ones? The Government policy is focused on new nurseries. There are currently around 9,700 school-based nurseries, which means that the roughly 3,000 new nurseries would need to come from the remaining 7,000 state primary schools who do not currently have nursery provision.

In the absence of school-specific data, it is not possible to determine how many of these 7,000 schools would have sufficient spare capacity or be located in the right places to meet new nursery demand. It's also possible that these schools not to offer nursery provision because they face specific challenges which are unrelated to physical space.

A better approach might be for the government to support the expansion of existing nurseries, as well as the

creation of new nurseries in primary schools. It might be easier to incorporate low levels of spare capacity into an existing nursery than to set up a new one. Combining expansion with new provision would also widen the net for matching demand with spare school capacity. Should new

Figure 4: Average number of spare spaces per school across Local Authorities
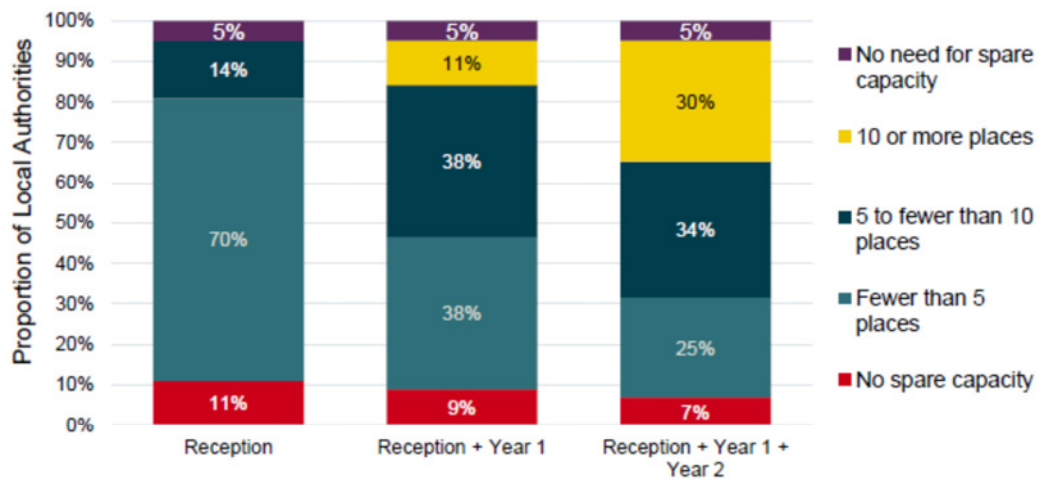
Source: Frontier calculations using DfE data on the projected numbers of school pupils from education-statistics.service.gov.uk and numbers of schools in each LA from explore-education-statistics.

nursery places be in schools? Putting capacity aside, there is some debate about whether primary schools are the best place for new nurseries to be situated. Evidence indicates that the average quality of early education is higher in school-based settings. [13] It is also argued that better pay and conditions in the school sector could attract new staff into the early years sector, [14] which is suffering from staff recruitment and retention problems. [15]

But most preschool care and early education in England is currently delivered by private and voluntary settings rather than schools. These settings deliver 78% of all early years registered places, including 91% of places for two year-olds and 98% for children under two. [16] It is argued that the experience of these settings of caring for babies and children under two (the age groups eligible for the extended

free childcare) means they offer a more appropriate experience for very young children than school environments. [17] Working parents might also struggle with limited school opening times, and the fact that school settings generally only operate in term time, rather than year-round. [18]

Conclusion: can spare capacity in schools make a difference?
In the immediate term, it is hard to see how spare capacity in primary schools can make a significant contribution to delivering the required new nursery places. Setting up new nurseries will require considerable flexibility on the part of schools to rearrange their age groups – and even then, the numbers of spare places would be infeasibly low at many schools.

There could be a role for LAs to manage the conversion of spare capacity, concentrating the space for new nursery places into a limited number of schools to ensure both sufficient space and demand. But even with full utilisation of spare capacity, poor geographic matching would leave some areas falling well short of local demand. In conclusion, this suggests that additional approaches for expanding nursery provision should be explored. Supporting expansion of existing nurseries in schools and providing sufficient funding to encourage expansion of the delivery of free places in private and voluntary settings could be good places to start.

Foot notes

[1[This is in addition to a universal early education offer of 15 hours per week for 38 weeks each year for all children from the term after they turn three, and a similar offer for disadvantaged children aged two.

[2[The phased rollout began with 15 hours per week for eligible two-year-olds from April 2024, followed by 15 hours per week for children under age two from September 2024. It

will be completed with 30 hours per week for all eligible children from the age of nine months from September 2025.

[3] The new nurseries on school sites do not have to be run by schools themselves, but could be delivered by local and voluntary providers. The expanded offer can also be delivered by other providers (private and voluntary nurseries and childminders) not on school sites.

[4] For example, see BBC report June 2024.

[5] The data and methodological background for the estimates are available from DfE. Our total number sums together the estimated hours required in each Local Authority for April 2024, September 2024 and September 2025. It then divides this by 26, the assumed average weekly hours used in the Government's calculations (see Spring_budget_2023_childcare_expansion_costing_note).

[6] The data on projected numbers of school pupils is drawn from education-statistics.service.gov.uk. Our total number covers reception to Year 6 as no projections for nursery classes were identified. It is not clear whether the projections for pupil numbers make any allowance for inflows from private schools due to the planned addition of VAT to private school fees. We calculate the change in pupil numbers from 2022 to allow for some preexisting spare capacity when the rollout of the extended free childcare began in April 2024.

[7] Media reports have focused on the decline in pupil numbers some years ahead, for example citing numbers for 2029 (BBC report June 2024) or 2030 (Schools Week report).

[8] The addition of VAT to private school fees could reduce the amount of spare capacity if there is a flow of pupils from private schools into the state sector. It is estimated that the total flow (over some time rather than immediately) is likely to be in the range of 20,000 to 40,000 pupils (IFS tax-private-

school-fees). Assuming an even distribution across age groups, this implies an inflow of 10,000 to 20,000 for primary schools. It is not clear whether the DfE projections have incorporated any estimate of the impact of the addition of VAT for private schools, but the projected spare capacity in primary schools could be slightly lower (from 5% to 20% according to timing and the range of the private school outflow estimate).

[9] Little evidence on mixed classes in primary schools in England was identified. A DfE report published in 2019 (Running-rural-primary-schools-efficiently) states that there are just under 2,000 small rural primary schools among which mixed age classes (defined as pupils from multiple age groups sharing the same teacher) are common. The report gives two examples of class structures: four mixed-age classes combining nursery with reception, Year 1 with Year 2, Year 3 with Year 4 and Year 5 with Year 6, and three mixed-age classes combining reception with Year 1, Year 2 with both Years 3 and 4, and Year 5 with Year 6. This suggests that pupils from the same year group are generally not split across mixed classes and that shuffling small numbers of pupils across all year groups in a school to concentrate spare space is unlikely. Hence, we consider combining spare space across the three infant classes but not across the entire school.

[10] Spare capacity in September 2027 is projected to be 28,00 for reception classes, 69,000 with the addition of Year 1 classes and 123,000 with the addition of Year 2 classes (equalling 36%, 89% and 158% of estimated new nursery demand respectively).

[11] The number of schools for each LA is drawn from explore-education-statistics.12 The 5% of LAs without any need for additional nursery places are placed in a separate category in Figure 4 because the number of spare places per school is not relevant in these areas.

[12] The 5% of LAs without any need for additional nursery places are placed in a separate category in Figure 4 because the number of spare places per school is not relevant in these areas.

[13] DfE SEED report on Early Years Provision Quality (SEED reports).

[14] See DfE, SCEYP_2021_Finance_Report. With regards to the plan for new nurseries in schools, UNISON has argued: "As workers in school-run nurseries are on nationally agreed local authority rates, wages tend to be higher than in privately run establishments. This should help the new nurseries attract the best staff and keep hold of them too." (UNISON news).

[15] For example, see DfE, Early-years-workforce.

[16] `Figures are derived from the DfE's Survey of Childcare and Early Years Providers at SCEYP statistics.

[17] For example, a range of concerns about the appropriateness of a school environment for very young children are detailed in survey findings reported in Nursery World Long Read. One respondent summarised
as follows: "A pre-school environment should be very different in physical structure and pedagogy to that of a school environment."

[18] For example, one sector organisation stated: "Labour must also consider the additional costs and practical challenges if it wants school-based nurseries to be open year-round and to fit with parents' working hours, and the additional expertise needed in primary schools if they are to take in younger children." (Early Education response).

Select Committee Reports

We continue our series of reviews of all parliamentary select committee reports on education, which we started in volume 25 beginning with January 2018. This issue covers the period from May to December 2024 and brings the series up to date with the latest report published

There was a general election in July 2024. All select committees in the House of Commons cease to exist once an election takes place, and are reconstituted once Parliament reassembles after the election. Any inquiries being undertaken automatically fall, and all inquiries start as new in the new parliament. It will therefore be awhile before committees are in a position to produce reports. This process does not apply to select committees in the House of Lords.

Think Work First: The transition from education to work for young disabled people, the House of Lords Public Services Select Committee's first report of session 2024/25. HL 12. Published on 15 October 2024.

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The Public Services Committee of the House of Lords was appointed on 13 February 2020 with a remit is to consider public services, including health and education. Unlike select committees in the Commons, which have to be reconstituted after a general election, those in the Lords continue over an election, as this committee has done. Under the chairmanship of former Education Secretary, Baroness (Estelle) Morris of Yardly, the committee published its First Report of the 2024/25 Session, on the transition from education to work for young disabled people, on 15 October .

The Committee concluded that, despite the efforts of successive governments, the disability employment gap remains at around 30 per cent, and disabled people continue to face barriers to securing long-term employment. The Committee's inquiry has found that this starts from the moment a young disabled person enters education, in early years, primary and secondary school, and through to how they are prepared for work and supported during their transition from education to employment both within and outside the education system.

We have learned of excellent, innovative, and exceptional services achieving outstanding results in this area, but we have also heard about systems that lack resources, aspiration and expertise, and of employers who are frequently

unwilling or who feel unable to bring disabled people into the workplace.

The Committee believes that this can change. The new Government has shown a clear desire to get young disabled people working. To do this, it needs to focus on early support and intervention, helping young disabled people to access and stay in work when they leave education. It must also work with employers to give them the support they need to create inclusive workplaces. This report sets out the ways in which this can be achieved.

The Committee's inquiry specifically focused on the experiences of young disabled people in the transition from education to work. It did not explore the wider public service environment—transport, health and social care, the wider education system, or the welfare system—but the Committee acknowledges their fundamental role in determining whether disabled people can access work and we heard how, in many cases, they are failing. Chapter 1 sets out the scope of this report, as well as the context in which this report has been written.

The challenges are significant but, as shown in Chapter 2, not insurmountable. Throughout our inquiry we saw many effective ways of supporting young disabled people to succeed: suitable careers education, tailored support in schools and the workplace, and clear, accessible information about the transition to work. In many cases, however, these were isolated examples or were pilot schemes at risk of being scrapped. The new Government has an opportunity to draw on these examples and deliver effective services that fully support young disabled people into work.

Chapter 3 focuses on how the education system prepares young disabled people for the world of work. Too often, education and careers services do not provide the tailored, specialist support that young disabled people need, or set low expectations for young disabled people from a very early age. However, there are clear examples of where things can work—if a young disabled person can get a supported internship, an accessible apprenticeship, or simply good

careers advice and work experience, they are much more likely to obtain fulfilling careers further down the line.

Chapter 4 examines the employment services that kick in once someone has left school. Many, particularly Jobcentre Plus, are simply not delivering. However, we heard how newer, supported employment programmes can be transformational and deliver real value for money. These form a strong foundation for rapid progress in this area for the new Government.

The Committee then shifted its focus to the workplace itself. Chapters 5 and 6 explore the challenges young disabled people can face from employers, and how their workplace rights are upheld. Many employers do a great job of supporting disabled job applicants and employees, but too many disabled people still face discrimination in recruitment and the workplace, and the current enforcement framework is simply inadequate. It can and must be fixed.

Employers are fundamental to creating inclusive workplaces. Chapter 7 explores how to support businesses in this. We celebrate businesses and public services that already create workplaces where young disabled people can flourish. But many employers remain scared of 'doing the wrong thing' and find it simpler to do nothing, missing out on a pool of talented people. With the right support, both from Government and from other employers, many more workplaces could welcome young disabled people.

There will, of course, always be some people who are not able to work due to their disability or health condition: they must receive appropriate support from the welfare system. However, many young disabled people yearn to work and to have a career. Too many are written off, told at every stage that 'people like them' will never thrive in work. This has to change. The presumption has to be, at every stage of a young disabled person's development, that they are fully capable of thriving in work, as long as they have the appropriate support. Aspiration has to be at the heart of support for young disabled people. We need to Think Work First.

Education Journal Review