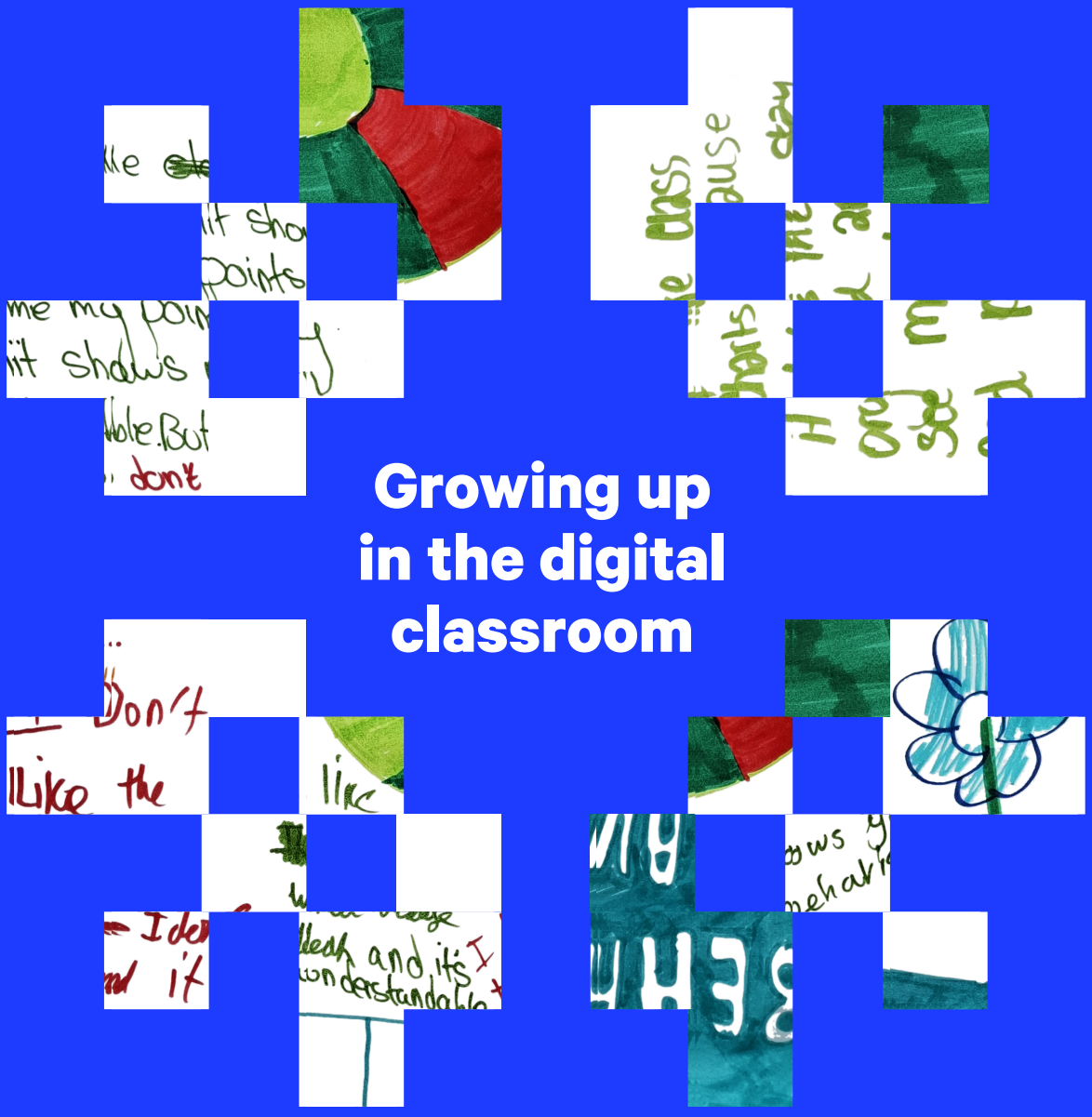


Growing up in the digital classroom

Experiences of EdTech and AI in UK schools

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Foreword

Schools are a linchpin of society, as they have been for centuries, with education today a key function of state, reflecting and shaping our culture, values, norms and vision for the future. While curricula may change, the right to education, its purpose and principles, are subject to universal consensus and enshrined in international law. Education should support children's full enjoyment of their rights, respect for those of others and the environment, and the development of their personalities, talents and abilities to their fullest potential. A good quality education is about promoting learning, development and rights, not only in what is taught but also in how it's taught.

How we educate our children matters immensely, and recent years have seen massive disruption as digital technologies have rapidly spread across schools. ICT has moved from being a study subject to mediating access to and the delivery of almost every aspect of education. In the UK, 90% of primary schools and 92% of secondary schools[1] use digital devices and online learning tools in class and for homework; 83% of primary school teachers and 94% of secondary school teachers use digital technologies to support learning, and 73% and 89% (respectively) have used this technology for formative assessments.[2] The education technology (EdTech) market in the UK is now worth £6.5 billion annually,[3] and is growing at an average rate of 8.8%, year on year.[4]

The spread of EdTech into our school systems has coincided with an overall decline in education outcomes. The OECD, for example, estimates that 15-year-olds have lost the equivalent of close to 1.5 years of learning over the last decade.[5] UNESCO has warned of a deepening global learning crisis, with 57% of school students failing to acquire basic literacy, numeracy and socio-emotional skills.[6] Both organisations have asked questions about the role of tech in these outcomes and the diversion of targeted resources from teacher training, children and parents or caregivers.

It has been widely accepted as a truism that digital technologies, and AI in particular, offer enormous potential for improving education. This report shows that while children and teachers share this optimism, it is tempered by persistent frustrations and deep-seated concerns born from their lived experience. They describe learning environments shaped by new tools and commercial forces that can offer increased efficiency and engagement, but whose inner workings, immediate impacts and long-term effects are too little understood, inconsistent, unpredictable and outside their control.

While the external environment may be changing fast, children's educational needs are not. New tools should be embraced when rigorous and impartial evidence shows that they meaningfully and consistently enhance children's learning without compromising their broader fulfilment and wellbeing.

EdTech has reshaped our schools and children's lives with very little scrutiny, blurring the line between using technology to support education and adapting education to serve technology. This report traces how children and teachers are navigating that tension with courage and creativity. It draws on their experiences to illuminate what matters most, and helps chart a course towards an education system in which technology serves children's learning, development and other rights.

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Preface

How can society achieve systemic change so that educational technology (EdTech) products are designed for the best interests of children, in all their diversity? To answer this question, we need robust evidence to stimulate a child rights-informed multistakeholder conversation on the role of technology in schools, with children's and teachers' voices to the fore.

This report is part of our Better Edtech Futures for Children project. It builds on our earlier research on educational technologies and children's education data, which generated a blueprint for child rights-respecting data governance.[7] This is supported by a detailed investigation of the experiences and views of schools, children, data protection officers, teachers and experts, and sociolegal analysis of how data generated while children learn is processed by both government and businesses.

We found that the collection of children's data is commonplace, and impacts on children's rights. Also, children's perspectives are largely excluded from the design, governance and evaluation of EdTech. Further, there is less evidence for EdTech's claimed benefits than often assumed, and what evidence exists mainly concerns uses of EdTech to improve test results, to the neglect of children's wider learning experiences.

This report widens the lens to encompass the experience of today's 'digital classroom', and grounds its insights in primary research with children and teachers around the UK. Despite the considerable attention to the role of EdTech in schools and beyond, it remains unclear just what educational benefits are anticipated or desirable, and whether these are being realised or, on the contrary, impeded by today's deployment of EdTech in UK schools.

About Better EdTech Futures for Children

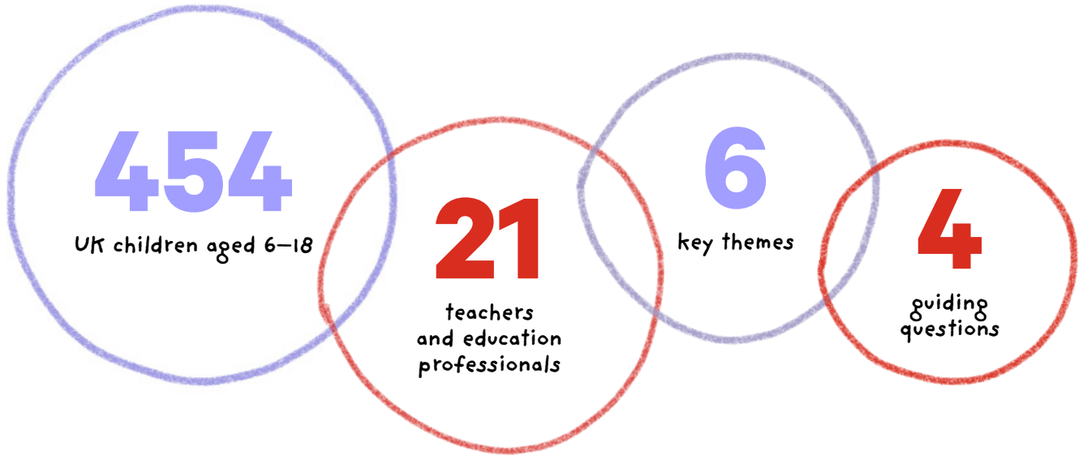
This joint project between Digital Futures for Children (DFC)[8] and the 5Rights Foundation[9] investigates how educational technologies (EdTech), including AI, are shaping children's learning experiences and rights in diverse contexts. With funding from the Garfield Weston Foundation[10] and the Rothschild Foundation,[11] this project focuses on the UK, and runs from 2025 to 2027.

Through multidisciplinary research and direct engagement with children, families and educators, we explore the equity, design and governance of EdTech systems. The project aims to identify best practices, develop rights-based recommendations and stimulate public debate over the best ways to achieve more inclusive, transparent and accountable digital learning environments.

The project speaks to policymakers, educators, public authorities, schools, child rights and civil society organisations, researchers and others concerned with children's experiences and outcomes in the digital age. We hope to contribute to a national conversation about how EdTech does, and could, shape children's learning and the realisation of their rights.

This project builds on the DFC's earlier research examining EdTech and its implications for children's rights.[12] Previous outputs from this project include:

- Atabey, A., Sylwander, K. R., & Livingstone, S. (2025). A child rights audit of GenAI in EdTech: Learning from five UK case studies. Digital Futures for Children centre, LSE & 5Rights Foundation. https://researchonline.lse.ac.uk/id/eprint/129459
- El Gemayel, S. (2026). What does 'good' EdTech look like – and what do schoolchildren think about it? Media@LSE, 10 February. https://blogs.lse.ac.uk/businessreview/2026/02/10/what-does-good-edtech-look-like-and-what-do-school-children-think-about-it
- El Gemayel, S. & Livingstone, S. (2026). What's the impact of EdTech on children's learning? Research is insufficient and inconclusive. Media@LSE, 4 August. https://blogs.lse.ac.uk/medialse/2026/08/04/whats-the-impact-of-edtech-on-childrens-learning-research-is-insufficient-and-inconclusive
- El Gemayel, S., Livingstone, S., & Sylwander, K. R. (2026). The impact of EdTech on children's learning and rights: Findings from a UK study. INTED 2026 Conference. https://library.iated.org/view/ELGEMAYEL2026IMP
- Livingstone, S., Sylwander, K. R., El Gemayel, S. and Atabey, A. (2026). Is there a right age for AI in education? Deciding whether AI is age-appropriate and why. Paris, UNESCO. Paper commissioned to support the development of policy briefs on AI governance in education. https://unesdoc.unesco.org/ark:/48223/pf0000399343
- Pothong, K., Sylwander, K. R., Livingstone, S., & El Gemayel, S. (2026). Assessing the impact of using EdTech on children's learning: A scoping review of meta-analyses. Digital Futures for Children centre, LSE & 5Rights Foundation. https://researchonline.lse.ac.uk/id/eprint/140402



Executive summary

Most children in UK schools are required to use EdTech for schoolwork and homework, with little choice to opt out. Yet, they and their teachers are rarely, if ever, consulted about their views or experiences of EdTech. Adopting a children's rights perspective, this report centres children's views and experiences. It examines the impact of EdTech, including AI, on children's learning and rights, drawing on consultations with 454 children aged 6–18 and 21 teachers and education professionals across the UK. The aim is to stimulate a national conversation around four questions: Which EdTech systems are being used by K-12 children in the UK, and for what purposes?, How and why does EdTech impact on children's rights, including their right to education, and does this vary according to circumstances?, How can EdTech policy and design features be improved to maximise benefits and minimise harms to children's learning and rights?, What are children's experiences, views and calls for change?

The report's findings are organised around six key themes that emerged strongly from the research: Generative AI in the classroom, Digital homework, Gamification and design features, Procurement and implementation, Commercialisation, the digital economy and Big Tech in the classroom, Children's rights and calls for change.

Generative AI in the classroom

Artificial intelligence (AI) is becoming part of everyday life, embedded in technologies in and out of school, for personal and educational use, and for children of all age groups. It is entering education faster than we know how to assess it, and it is being promoted and adopted in schools without clear evidence of the benefits it may offer children.

Learning

Children were already using AI chatbots for research, revision and learning but were often unsure whether they could trust the information it gives them or distinguish between real and AI-generated content. A few children likened the use of AI to cheating, whereas others argued it depended on how it was used. Children and teachers stressed that AI could help learning when used to support rather than replace children's own work and learning processes, linking AI use for learning to alignment with intended learning outcomes.

Child–teacher relationships

Children sometimes turned to AI to avoid burdening their parents or teachers, or when relationships between children and teachers were strained. Conversely, at times AI led to increasingly strained relationships, such as when teachers accused children of cheating when they had not. Children argued that teachers marking their homework showed that they cared for their pupils, but this was being replaced by automated systems. This raises a deeper issue where some children do not feel deserving of adult time or attention.

Commercialisation and data protection

Children questioned the incentives of technology companies for what they perceived as the forced integration of AI into everyday tech, expressing concern around their intention to increase children's dependence and reliance on these products. Paid subscriptions and unequal access to AI resources risk widening existing divides. Children were concerned and uncertain about what happened to the information they entered into AI systems, and how this information might be used.

Governance gap

AI adoption remains uneven both in and across schools, with some adopting restrictive policies that limit AI access and use and others following a more permissive approach, arguing that teaching children how to use AI safely is the school's responsibility and in children's best interests for the future. With AI developing faster than schools, teachers and families can keep up, school policies were often evolving, resulting in a disconnect between official policies and teacher practice and child experiences. Where clear policies or discussions were absent, children were developing their own rules and boundaries for using AI. Children and adults were left to navigate emerging risks without clear guidance.

Digital homework

Homework is becoming increasingly digital, with children in primary and secondary schools reporting using a wide range of homework apps, programs and software. Homework management platforms played a central role in organising homework and served as gateways to other digital resources. Children described navigating multiple platforms and apps, and at times having to deal with technical problems such as log-in failures and glitches.

Tracking, monitoring and surveillance

While teachers valued the data captured through these apps, children complained that they were being timed and tracked, and every move, pause or click 'datafied'. Children were aware that their activity could be monitored at home through school devices and filtering systems. They called for a break from some of these products and a need to 'switch off'.

Automation and personalisation

Automation and personalisation were experienced as rigid systems that, while saving teachers time, place a heavy cognitive load on children. The children voiced frustration and raised concerns around the unclear automated questions and feedback, exact-match marking, punitive features and repetitive loops when stuck. This raises questions about the value of homework for learning, as opposed to learning how to answer homework questions with specific and narrow response models.

Unequal access

Homework was done on a range of devices, and sometimes on a combination of digital platforms and paper. Not all schools provided children with take-home devices, forcing children to complete homework on paper (which was sometimes linked to being punished), in school, where dedicated library spots could fill up, or at home, on borrowed, shared or unsuitable devices such as smartphones that limit access to vital app features. Unequal access extended to a lack of Wi-Fi at home and access to paid subscriptions. Children with fewer resources face greater obstacles and have to find their own workarounds.

Accessibility, special educational needs and disabilities (SEND)

While children valued accessibility features such as translation, text-to-speech and optical character recognition, findings revealed that some homework apps were not designed to accommodate children's diverse needs.

Gamification and design features

EdTech tools now commonly include gamified features to maximise child engagement. These features range from avatars and games to leaderboards, points and rewards. Other notable design features include timers and countdown timers, social features including messaging, notifications and reminders and behaviour tracking.

Learning vs engagement

Overall, the children seemed to enjoy gamification. They liked receiving points, competing with other children and receiving prizes. The question is, however, what is the role of gamification in children's learning? The children were measured not on their learning, but on their speed and points. Even if they answered a question correctly, some described feeling they had 'lost' when they were marked down for answering a question too quickly, when someone had 'stolen' their points, or because they were not the fastest. Rather than striving to learn, children are placing value on the measures of success introduced by these platforms: Am I the fastest? Am I at the top of the leaderboard? Have I accumulated enough points? While it may appear that children are succeeding and progressing, these design features obscure the important question of whether meaningful learning is actually taking place. Another question that emerges is: 'how much gamification is too much?'

Child rights-respecting design

The children questioned whether common features were designed and incorporated into EdTech tools with their best interests in mind. Some looked at their behaviour charts every morning – not because they wanted to, but because it was the first thing that appeared when they opened the app to see their daily timetable. While notifications could be helpful to keep track of homework and deadlines, some were too frequent, repetitive or unnecessary. One child was awoken after midnight by a notification asking him to complete work he had already submitted. EdTech should adapt to children's needs, rather than asking children to adapt to the logic of the platform.

Inclusion

Timers and countdown timers were common features across several apps. These were applied consistently, but often not fairly. One teacher described their inability to adjust timers for children with special educational needs (SEN), disadvantaging those children and causing unnecessary distress.

Procurement and implementation

Children and teachers were optimistic about EdTech and keen to try new technologies. They and schools were putting considerable time, energy and resources into EdTech. Apps, devices and policies varied greatly across schools, resulting in different learning experiences and opportunities for different children. We spoke to teachers and education professionals about how decisions are made about which products to use and how schools are investing in EdTech.

Little evidence as to what works

Schools were making thoughtful decisions about what EdTech to procure within the limitations of constrained budgets and little independent evidence. Teachers and staff described relying on teacher-led social media groups, word of mouth and conferences and tech shows to find what 'good' EdTech tools were available. They often relied on claims made by the companies selling those products, but many also conducted their own research and piloted tools to decide whether or not to commit to them. In essence, they were left to work out for themselves whether a product was worth procuring. While schools wanted to make decisions about what tools would work best for them and their pupils, they also called for clearer guidance and stronger independent evidence about what works.

Training and pedagogy

Teachers often called for more training to keep up with rapid technological growth and changes. Importantly, pedagogy was central to whether a tool helped children learn. Were children asked to sit on forward-facing desks to look at AI-generated PowerPoint slides on a screen for six hours a day, or were they interacting, collaborating and engaging with their teachers and peers? Was the use of EdTech supplementing the role of the child and teachers, or was it replacing it?

Technology is shaping education

Teachers discussed how the availability or limitations of EdTech influenced how subjects were taught. In Wales, concern was raised that platforms did not provide resources because a smaller curriculum market was not commercially viable. Concerns were also raised about educational contexts adapting to technology companies' rules. Similarly, the rise of AI invites scrutiny as to whether curricula, assessment and teaching should change to accommodate the technology, or if technology should be developed around established educational aims and outcomes.

Commercialisation, the digital economy and Big Tech in the classroom

The study explored how commercialisation goes beyond the involvement of private companies in education to include their increasing influence on children's experiences of learning. While teachers were clear about their priorities for EdTech and learning, there was a visible imbalance of power between them and tech companies.

Big Tech as EdTech

The distinction between Big Tech and EdTech is no longer clear-cut. Apps that are designed for commercial purposes are being used by teachers and children for essential parts of education. How are these Big Tech companies influencing children's experiences of learning, and who do they benefit? Where commercial availability or design begins to determine educational practice, there is a risk that education adapts to technology rather than the other way around.

Advertising

YouTube was particularly singled out for its use of advertisements. The children and teachers reported seeing inappropriate adverts both at home and in school, and these often came at inopportune times, such as an Uber advert disrupting a lesson on the Holocaust. Children understood YouTube's adverts as part of a commercial model, where in order to stop receiving them, you had to pay. This highlights the distinction between the educational use of the platform and its commercial incentives. 'Freemium' vs 'premium' products meant that stronger safety features and protections sat behind a paywall, creating an additional problem for schools with smaller budgets.

Monitoring and filtering

Children and teachers experienced inconsistent rather than fully protective monitoring and filtering systems. These systems sometimes blocked legitimate educational content and activity while inappropriate content made its way through. Such decisions are being shaped by the design, rules and assumptions built into these commercial products. The children found ways to circumvent these systems through particular prompts or other workarounds. While they were informed that these systems were tracking them, monitoring extended beyond the classroom, and the children remained unaware of what was happening to the data collected.

Children's rights and calls for change

The report illuminates how children experience EdTech and the impacts of its use on their rights to education, inclusion and non-discrimination, information and participation, protection from commercial exploitation, wellbeing, privacy, protection from harm, development and evolving capacities and best interests. In the final chapter, we ask what children think can be improved to maximise the benefits and minimise the harms linked to EdTech.

Children's 10 calls for change:

1 **Voice**
Children want to be meaningfully involved in decisions about the tools they use.

2 **Educational purpose**
Schools should procure, and industry should design, tools that genuinely support their learning, inclusion, wellbeing, privacy, safety and best interests.

3 **Inclusion**
Working devices, reliable and sufficiently fast internet and access to educational content, with alternatives provided to overcome barriers to digital access.

4 **Usability**
Better designed tools that are simpler, easier to navigate and accessible across devices, less repetitive and more responsive to how children learn.

5 **Supports learning**
Useful, supportive feedback, with clear explanations and opportunities to learn.

6 **Collaboration**
Ability to work collaboratively and creatively with peers with flexibility in how and when to use technology.

7 **Agency**
AI that supports, rather than replaces, children and teachers. Give choice over AI, improve its quality, and ensure teachers remain central to learning.

8 **Safety**
Safer and more transparent digital spaces; protect them from harmful content, clearly label AI-generated content, and be transparent about data collection and monitoring.

9 **Non-commercial**
Less commercial pressure and incentives; Remove unnecessary paywalls, inappropriate advertising and practices that pressure them or their families to pay.

10 **Wellbeing**
Design gamification, notifications, timers and behaviour-tracking features that respect children's wellbeing, inclusion and individual needs.

A children's rights framework emphasises that children have the right to be heard on matters that affect them. What happens at school greatly affects children. Moreover, their 10 calls are informed and informative for education policy and provision: these calls should be heard and acted upon forthwith by the government, educators, industry and other relevant stakeholders.

Glossary

Term	Definition[13]
Algorithm	A set of instructions or steps that are used to solve a problem or to complete a task.[14]
Artificial intelligence (AI)	A branch of computer science dedicated to creating systems capable of performing tasks that typically require human intelligence.[15] There are different categories of AI systems, such as emotion recognition systems, chatbots and online search and recommendation systems.
Automation	Processing activities or actions that take place without human intervention under specified conditions and functions.[16]
Best interests of the child	The best interests of the child principle derives from Article 3 of the United Nations Convention on the Rights of the Child (UNCRC).[17] It requires 'a balancing act across the full spectrum of children's rights as well as the rights of others, also taking into consideration the contexts of use'.[18] Notably, respecting the child's best interests as a primary consideration in actions by the State is the guiding principle of the UK's Age-Appropriate Design Code.[19]
Bias	Bias (in AI) arises from the prejudicial and/or erroneous use of input data or training data that produces or amplifies prejudices, errors or unfair outcomes in the results or decisions made by an AI system.[20] Algorithmic bias refers to 'an automated system that produces results that discriminate against or disadvantage groups of people (for example, based on age, disability, gender or race)'.[21]
Child	A person under the age of 18, as defined in Article 1 of the UNCRC.[22]
Children's rights	Children have the same human rights as adults and must be recognised as full rights holders. The UNCRC recognises that children, defined as all persons below 18, have additional rights to protection and support, due to their particular vulnerabilities and evolving capacities. Children's rights include civil, political, economic, social, health and cultural rights, and all their rights are interdependent and indivisible.

Commercial exploitation	Practices that involve taking unfair or unjust advantage of children or their data amount to exploitation. An advantage can be anything of value. When it includes monetary or any other material interest, gain or benefit, the exploitation is commercial (or economic).[23] 'Unfair' or 'unjust' practices can include any action or omission that is against children's best interests, fails to account for children's needs and vulnerabilities, or can potentially undermine children's rights.[24]
Digital literacy	The knowledge, skills and ability to use information and digital technologies to find, evaluate, create and communicate effectively. Related terms include 'media literacy', 'information literacy' or 'media and information literacy', among others.[25]
EdTech	Technology deployed by schools for educational purposes that is used by or impacts on children. It covers various tools, including digital platforms, learning management systems, online resources, AI character chatbots, educational apps and software.[26]
Generative AI (GenAI)	A subset of AI that uses generative models to produce new content such as text, images, videos or other forms of data. Typically, these models are trained on extensive datasets, which allows them to exhibit a broad range of general-purpose capabilities.[27]
K-12	The school system that includes primary and secondary education (from kindergarten to the end of secondary school).
Profiling	The processing of personal data to infer and/or predict aspects of a person, e.g., the person's 'performance, economic situation, health, personal preferences, interests, reliability, behaviour, location or movements'.[28]
Wellbeing	A positive state that people and societies experience (e.g., the state of being healthy, satisfied with life, and happy).[29] Wellbeing in the digital world depends on design choices and policies that support children's life satisfaction, happiness and health (e.g., 'promoting a balanced lifestyle, emotional regulation and supportive social connections' or designing to 'make mental and physical health and other forms of support easily accessible'[30]).

Introduction

In December 2025, we visited a school in the south of England to speak with a group of children and their teachers about the technology they used in their classroom. We showed a group of Year 2 children, aged six and seven, two AI-generated images. The first showed a robot sitting in a circle with a group of children in a classroom (*see Figure 1*).

We asked the children what they thought was happening. They were quick to give their thoughts, suggesting that the children in the image were 'listening to a robot' and 'maybe talking to the robot'. The conversation then turned to where the teacher might be. The children had some ideas, suggesting 'Maybe the robot ate the teacher' and 'Maybe the teacher turned into a robot'.

The children found this idea intriguing. One thought it would be 'actually cool' if their teacher became a robot. Another thought the teacher had simply gone to the bathroom.

We then showed the children a second image: children sitting at forward-facing desks, looking at a person on a screen, with no teacher physically present (*see Figure 2*). Some children liked the idea of learning from a teacher through a screen, but others were less convinced. They wondered whether a teacher could see what was happening, whether they could get help when they were stuck, and whether a teacher on a screen could understand how they were feeling.

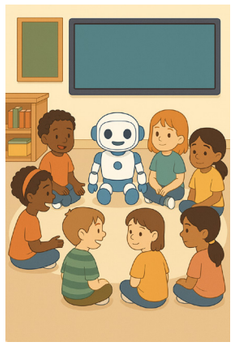




FIGURE 1
Vignette of children with a robot

FIGURE 2
Vignette of children on forward-facing desks looking at a smartboard screen

As one child put it:

> In our class, if you are stuck on something, we can ask the teacher for help... [If it was on a screen] they could help you, but they might not, they might not still be able to understand you because they're on a screen.

Another child explained why having a teacher physically present mattered:

> I think that it might be also a bit better for the teacher to be in the classroom so they can actually supervise them properly, and if the student isn't feeling comfortable they can have a private chat... And then if they felt that they needed a hug because they were feeling a bit sad, they could.

The two images present exaggerated versions of a possible future classroom, but both reflect questions that are already relevant to children's education today. They exemplify a much broader shift: educational technology (EdTech) is increasingly woven into children's everyday experience of learning, through the platforms, devices, software and AI tools used in schools and for homework. At six and seven years old, these children were already pondering the same questions being debated by policymakers, educators, academics and parents and caregivers: what role should technology play in education, can technology provide what children need, and how do we ensure that technology strengthens, rather than diminishes, every child's right to education?

The children's thoughts offer important insights which hardly fit into a 'for' or 'against' bucket. They could see the possibilities of having a robot teacher or learning through a screen, enjoy the idea of something new, and still recognise the things a teacher provides that a screen or robot might not: being present, noticing when something is wrong, helping when they are stuck and understanding how they feel. What they recognised in these imagined classrooms is already relevant to education today.

Context and aims

EdTech is central to many schools' everyday operations, with digital devices, platforms and infrastructures now 'pervad[ing] education across ages, levels, and contexts'.[31] For the purpose of this report, we use the term 'EdTech' to refer to any 'technology deployed by schools for educational purposes that is used by or impacts on children. It covers various tools, including digital platforms, learning management systems, online resources, AI character chatbots, educational apps and software'.[32]

We use this definition because we are interested in exploring any technology used in the classroom and at home for children's education, whether specifically marketed as an educational tool or not. Alongside delivering educational content, these technologies increasingly collect and process information about children through features such as learning analytics, automation, the quantification of behaviour and attendance, and surveillance-based safeguarding.[33]

Research has identified significant concerns about how EdTech is designed and governed. A 2026 audit by the Information Commissioner's Office (ICO) found significant data privacy and security breaches across EdTech products in the UK.[34] Research into generative AI (GenAI) tools used in education has also identified risks to children's privacy and protection from commercial exploitation, alongside limited evidence of children's involvement in their design and governance.[35]

Yet, the EdTech market and its presence in schools is developing quickly.[36] In 2025, the EdTech market generated over US$180 billion globally[37] and around £6.5 billion in annual turnover in the UK alone.[38] However, we still know relatively little about what children are using, how these technologies affect their education, and whether they are delivering the benefits claimed for them. The evidence of EdTech's overall benefits for children remains contested.[39] Importantly too, we know little about EdTech from children's own perspective: what they use, how and why they use it, what they think about it and how it affects their rights, including their right to education.

This report aims to stimulate a national conversation in response to four key questions:

1. **Which EdTech systems are being used by K-12 children in the UK, and for what purposes?**
2. **How and why does EdTech impact on children's rights, including their right to education, and does this vary according to circumstances?**
3. **How can EdTech policy and design features be improved to maximise benefits and minimise harms to children's learning and rights?**
4. **What are children's experiences, views and calls for change?**

A child rights approach

Children's right to education encompasses more than access to schooling. Article 28 of the UN Convention on the Rights of the Child (UNCRC) establishes children's right to education, while Article 29 sets out the purposes of education: the development of the child's personality, talents and abilities to their fullest potential, and respect for human rights, cultural identity and the natural environment.[40]

These rights cannot be separated from children's other rights, including

- **non-discrimination** (Article 2),
- **the prioritisation of their best interests** (Article 3),
- **provision and guidance according to their evolving capacities** (Article 5),
- **respect for their views** (Article 12),
- **expression and right to access information** (Article 13),
- **privacy** (Article 16),
- **protection from harm** (Article 19),
- **inclusive education** (Article 23), and
- **protection from commercial exploitation** (Articles 32 and 36).[41]

These rights provide an important framework for assessing how technology is used in education and what it means for children's experience of school. However, our recent audit of five AI-EdTech products revealed multiple infringements of children's rights.[42]

This context demands that we look beyond the promises surrounding EdTech to identify what is actually happening in children's everyday experiences of education and what they mean for their rights.

It was from this starting point that we went into schools.

Methodology

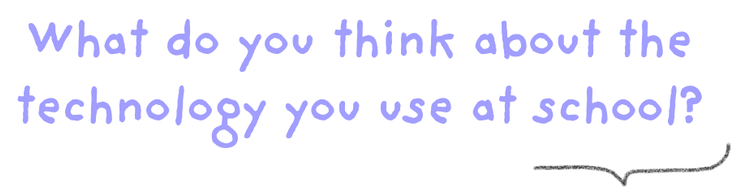
We heard versions of the questions raised by those six- and seven-year-olds, in different forms, from 454 children aged 6-18 across five primary and six secondary schools through workshops across all four UK nations. We also interviewed 21 teachers and education professionals.

Participatory workshops with primary-aged children included drawing, vignettes and a 'magic bag' activity that generated rich discussions. Workshops with secondary-age children included listing all the devices and apps they use in school and for homework, drawing screenshots of their most and least liked apps, and writing down their calls for change. Full information is provided in the appendices:

- **Appendix 1** for a detailed study methodology.
- **Appendix 2** for the children and teachers who participated in the consultations.
- **Appendix 3** for the list of child consultations.
- **Appendix 4** for a profile of the schools visited.

The purpose was to examine children's and teachers' views on how EdTech impacts on children's learning and rights. On a bigger scale, we hope to stimulate a national conversation around which EdTech systems are being used by children in UK schools and for what purposes, how they impact on children's rights according to their diverse circumstances, and how EdTech features might be improved, all the while centring children's experiences, views and calls for change.

We therefore began with a simple question:



Structure of the report

The conversations were broad, sometimes took unexpected directions, and often moved well beyond the technology itself. In this report, we draw out six themes, listed below, that emerged from the workshops and focus on children's calls for change. We believe these offer needed insights as society asks about the pros and cons of technology in education:

Generative AI (GenAI) featured prominently in our conversations with both children and teachers. Being so new, this meant considerable excitement and interest, especially from children. Chapter 1 looks at how AI is already shaping learning and teaching, and the questions and concerns it raises for students and for schools.

In Chapter 2, we turn to **homework**. Homework was a popular focus of discussion for children, and it is also the subject of wider public and political debate about its role in children's education. The chapter details how EdTech can extend schoolwork into the home, and can undermine digital inclusion and the relationships between children, parents and caregivers and teachers.

To motivate children, education is often **gamified** by introducing points, rewards, levels and leaderboards into school systems. In Chapter 3, we explore children's responses to gamification, including the design features the children encounter across a range of EdTech.

Chapter 4 examines **procurement**. Schools must make significant and often complex and uncertain decisions about the technology children use at school. Focusing more on teachers' and school leaders' experiences, we discuss who makes those decisions, what informs them, and the extent to which children's interests and experiences are taken into account.

Chapter 5 considers how 'Big Tech' **commercialises** learning in the classroom, through its extensive data processing, and by bringing in learning platforms and brands associated with social media, gaming and leisure. This changes whose interests are reflected in decisions about the technology children use.

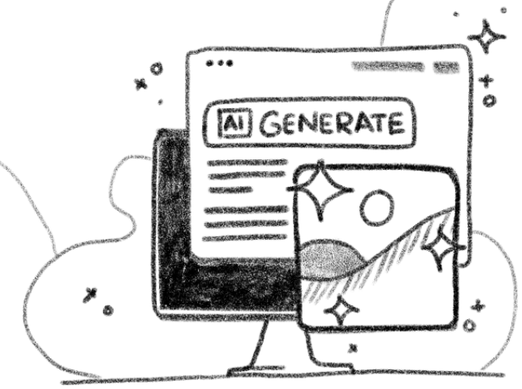
Finally, Chapter 6 draws on the findings to examine how EdTech impacts on children's rights. It then highlights children's and teachers' **calls for change** and their views of what 'good' EdTech use looks like.

As children's rights are indivisible and interconnected, the growing use of EdTech cannot be assessed solely in terms of its possible educational benefits; its impact needs to be considered across the range of rights that are relevant when technology becomes part of children's education. Yet there is limited evidence of how children and teachers themselves experience these technologies. Because of this, we went directly to them, to understand what they think about the technology used in education and how it is shaping their everyday experience of learning.

One of the fundamental rights in the UNCRC is Article 12, children's right to be heard on matters that affect them. This report honours that right by devising an open-ended workshop-style project to listen to children, their experiences of EdTech and of learning and school more generally, and their calls for change. These calls we hereby communicate to the policymakers and educators with the power to take note and, we hope, the actions needed to bring about a better EdTech future for children.

What follows is an account of what we heard: the benefits children see, the concerns they have and the ways technology is shaping their experience of education.

01



Generative AI in the classroom (and beyond)

Key takeaways

One

AI is entering children's education faster than we know how to assess it:
Children are already using AI for learning, research and revision, yet many are unsure whether they can trust what it tells them or distinguish what is real from what is fake. Meanwhile, AI is being promoted and adopted in education without clear evidence of whether or how it benefits children.

Two

AI might be compensating for gaps in human relationships:
Some children said they felt more comfortable asking AI questions than asking a teacher or parent, in some cases because they did not want to be a burden. Children also described their teacher's marking and preparatory work as signals that they are cared about and taken seriously. AI may be masking a deeper issue: some children do not feel entitled to adult time and attention, something that basic AI safeguards cannot address.

Three

Personalisation and automation are not serving all children:
Children described supposedly personalised systems as surprisingly rigid – giving harder work after success, repeating tasks when they were stuck, or responding in ways they could not understand. They could distinguish between personalisation by an algorithm and personalisation by a teacher. Greater reliance on automated systems also raises questions about how much confidence teachers retain in their own professional judgement.

Four

Children are absorbing the governance gap:
In the absence of clear policies or discussion at school or home, children are developing their own rules and boundaries for using AI. AI is developing faster than schools, teachers and families can keep up, leaving children and adults to navigate emerging risks without clear guidance.

Introduction

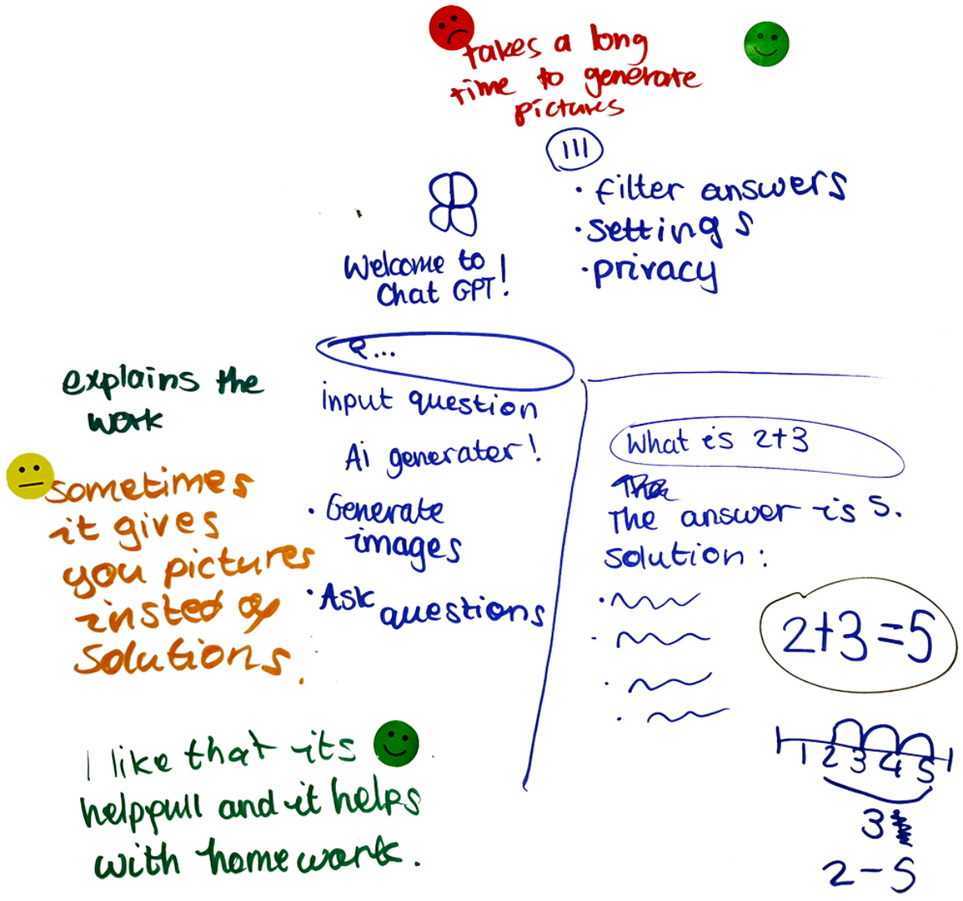


FIGURE 3
Year 8 pupils' drawing of ChatGPT during a workshop activity

Generative AI (GenAI) has moved from being a novel technology to an everyday part of many children's lives in a short space of time. Since the public launch of tools such as ChatGPT in late 2022, AI-powered chatbots and search tools have become increasingly accessible, with children using them both independently at home and as part of their education. While AI presents opportunities to support learning, creativity and accessibility, its rapid adoption has significantly outpaced the development of clear guidance, safeguards and children's rights-based approaches to its use in schools.

Recent research suggests that AI is already a common feature of children's digital lives. Internet Matters found that two-thirds of children aged 9-17 have used an AI chatbot, with many using these tools on a weekly or daily basis.[43] Among those who have used AI chatbots, 42% reported using them to support learning or schoolwork, with use increasing among older children.[44] Earlier research similarly found that over half (54%) of children who use GenAI use it for homework or schoolwork.[45]

Children report using AI in a wide range of ways to support their learning, as well as for broader everyday activities. Research by the National Literacy Trust found that, among young people aged 13–18 who use generative AI at least once a month, the most common educational uses are asking questions (61.2%) and getting help with homework (60.9%). Many also use AI to support their writing, including improving vocabulary (39.5%), receiving feedback on written work (20.7%) and developing creative ideas, such as turning prompts into stories (19.3%).[46]

Our workshops echoed these findings, with children using AI as a tool for revision support, completing homework and understanding challenging topics, as well as for entertainment. Some reported being introduced to AI by teachers, while others began using it independently outside school.

AI is increasingly being promoted in schools for its potential to provide personalised, inclusive, flexible, adaptive and engaging learning.[47] Techniques used by AI systems in education, such as predicting when a child might fall behind, illustrating progression against predetermined learning paths and personalising content, may offer benefits while also posing risks related to bias, surveillance and control over children's learning.[48] Yet, critiques of AI tend to focus on the risk of cognitive offloading,[49] and its consequent impact on children's skill development and cognitive interaction and engagement.[50]

In this chapter, we draw on findings from workshops with children and teachers across the UK to examine how AI is reshaping educational experiences. The chapter begins with an overview of how children use AI in school and for homework and their understanding of AI. We then discuss the diverse participating schools' policies on AI, how children bypass AI restrictions in schools, and the intentional way in which they select AI chatbots, as well as how school policies influence these strategies. We unpack the children's and teachers' perspectives on how the use of AI in schools and for homework impacts on children's learning and rights, including relationships, agency, inclusion, data privacy and protection and children's best interests. Child and teacher perspectives reveal the nuanced and complex role AI is beginning to play in a child's education.

Like I said, it's nice once in a while, like how our maths teacher uses it, like every once in a while. But I don't like it when they use it for the whole [PowerPoint] slide because it feels like the AI is teaching me more than the teacher.

S4, YEAR 9, GROUP4, ENGLAND

01.1

How children use and understand AI

Children's uses of AI chatbots

AI is becoming increasingly embedded in the EdTech used by children across the UK. Often without either the children's or teachers' explicit knowledge or consent, AI chatbots are embedded in school-provided EdTech products such as the search engines on their school-issued laptops, their homework software or language learning software. The children reflected on how AI was becoming part of their school assessment systems, to set and mark homework, 'personalise' feedback and to automatically place them in different grades and groups.

The children also described how they used AI chatbots on their private devices to help with their homework and learning. While a small number were somewhat AI-averse, some primary and most secondary school children did use AI chatbots in one way or another.

Entertainment and advice

Use at home differed from that in schools. At home, some children used AI chatbots in an advisory fashion, for example, for medical and financial advice (S2, Year 7, Group 3, England). Others cited using chatbots for entertainment, with one child describing how they deliberately tested the chatbot's responses by inventing fabricated situations, taking pleasure in 'winding it up' with claims such as, 'my dog drank a whole ocean' (S2, Year 7, Group 3, England).

Help with homework

A common theme for children's use at home, however, was using an AI chatbot to help with homework. Reasons for this usage centred around convenience, especially when neither the children nor their parents could answer a homework question.

For some children, there was clear emphasis on the fact that AI 'just gives the answer' (S6, Year 10, Group 2, Northern Ireland). However, for many others, AI chatbots were described as being used as an explanatory tool, or a learning and revision agent. This appeared to reflect some children's desire to emphasise that they were still doing their own work, with AI valued not as a substitute for effort but as a tool to support learning. Especially for pupils coming up to GCSE[51] age, this was shaped both by their awareness that different chatbots varied in accuracy across subjects and tasks, and by a sense that using AI to support understanding was not the same as cheating. As one Year 10 pupil explained:

> 'I do [use AI chatbots] at home, but when I do it, if I don't understand the question, I take a screenshot of it, and then it shows me the steps how to work it out, and once I know how to work it out, I apply that knowledge to the question. I don't [use] it for the answers, but if I genuinely want to get the question right, but I don't know how to, it's quite useful to give me the steps to it. It's not the answer itself, but it's just to double check.' - S5, Year 10, Group 1, England

Substitute for seeking support from teachers or parents

For some children, AI acted as a substitute for seeking support from teachers or parents and caregivers. The children described turning to AI because it felt more accessible, immediate and non-judgemental than asking adults for assistance. **Several children, including those around GCSE age, reported independently using AI instead of approaching teachers when they felt they would be a burden, while others turned to AI when they perceived teaching quality to be poor or explanations difficult to understand**.

Researcher Would you be able to contact your teacher or parents or someone to help you? Or do you usually go to AI?
Child Just AI or Google.
Researcher Is it for any specific reason that you go to AI rather than a teacher or a parent?
Child I feel like I'm just bothering them.
- S6, Year 11, Group 1, Northern Ireland

In these cases, AI was valued for providing personalised explanations and allowing children to work through problems at their own pace.

Overcoming limitations of automation and personalisation

The children also expressed frustration with the barriers or failures of automation and personalisation in EdTech, and explained how they used chatbots to override them.

One particular grievance concerned Sparx Maths, a mathematics learning platform that promotes itself as using 'innovative personalisation algorithms that generate high-quality and highly bespoke homework'.[52] Echoing earlier comments about the value of chatbots as explanatory tools, some children felt that 'personalisation' and automated feedback within educational software was less effective than that generated through general purpose chatbots. As one young person put it, Sparx 'does not help you learn at all' (S4, Year 9, Group 4, England) leading them to use tools such as ChatGPT instead because it would 'spell it out' (S4, Year 9, Group 3, England) providing adapted explanations to their learning needs:

Child So I'll scan it and then I'll get the answer and then I'll tell him, can you like spell it out, you know, like, do it simpler. So it does it simple and then I say, can you give me another one so that I know how to do it now? And then when it gives me another one, I do it myself. I give ChatGPT the answer and it says I'm correct and then I go on Sparx and I put the one that it gave me first.
Researcher So maybe Sparx Maths would be better if it allowed you to do just that?
Child Yeah, so if it gives you proper step-by-step reasons instead of just giving you a video that doesn't really make sense.
- S4, Year 9, Group 3, England

This suggests a shift in help-seeking behaviour, where chatbots can function as another option for support when difficulties arise during independent work, alongside, or in some cases instead of, asking real people for help.

While the children found chatbots helpful to overcome these barriers, some described how limitations associated with free chatbot versions, including not having access to a 'premium option' (S1, Levels 2 and 3, Group 1, England), could disrupt the extended exchanges they relied on to work through problems and refine their understanding:

> And ChatGPT only have like a certain amount of memory. You can only ask so many questions before it needs a break. You need to pay to get more... Like ChatGPT you can only ask it 10 questions. - S6, Year 10, Group 1, Northern Ireland

Understanding AI

Although the children demonstrated a strong understanding of how to use AI chatbots to achieve their goals, there was less awareness of how the systems themselves were shaping the interaction.

In one workshop, a child engaging with Snapchat's My AI feature was shown pre-populated prompt suggestions such as 'summarise math solving techniques' and 'explain weird animal behaviours' despite not having entered any input. The child interpreted these suggestions as anticipatory support, describing them as being there 'just in case you need help with anything' (S6, Year 10, Group 1, Northern Ireland).

When asked how the system knew what to suggest, the child was unsure and did not identify any clear basis for the prompts. Although they had not previously entered related queries, the child suggested that if they did, 'it would change next time I go on it'. When asked whether the chatbot might remember what they had written before, the child responded 'I think so', reflecting uncertainty about how memory and continuity function in the system (S6, Year 10, Group 1, Northern Ireland).

This interaction highlights how interface features such as pre-populated prompts can be experienced as proactive or personalised support, even where the underlying logic is not visible or understood. It also suggests that although children do not explicitly understand how AI systems operate, the conversational design of these systems may lead them to infer that they can remember past conversations and adapt over time. This may therefore shape children's interactions with the system, the agency and capabilities they attribute to the system, and the degree of trust and reliance they place in its suggestions.

01.2

School policies on AI

Across the UK, teachers and children are constantly encountering messages about AI. Governments in all four nations have promoted AI to schools highlighting its potential to reduce teacher workload,[53] to support teaching and learning and to ensure that young people develop the skills needed for an increasingly digital future. Nonetheless, AI adoption remains uneven both in and across schools.[54]

All participating schools had policies or guidance on the use of AI, reflecting guidance issued by their respective devolved governments. However, the ways in which these policies were implemented varied. Some schools viewed AI as unsafe for children to use and had adopted restrictive policies that limited access to AI tools. Others took a more permissive approach, arguing that AI is likely to play an important role in young people's futures and that schools have a responsibility to help children learn how to use these technologies safely. In these schools, pupils could use AI for educational purposes with teacher supervision and were often already engaging with AI-powered features embedded within educational technology platforms.

Even within individual schools, however, approaches were not always consistent. Policies were often evolving in response to a rapidly changing technological landscape, and teachers were still working out how AI could be used within existing rules and lessons across age groups. As a result, there could be a disconnect between official policies, teaching practice and pupils' experiences.

In some cases, schools were exploring how AI could support learning in line with assessment requirements, while at the same time pupils experienced restrictions on access to AI tools during the school day:

> SQA [Scottish Qualifications Authority], as the qualification body, changed the rules this academic year [so] that in different courses, different courses can use AI in different ways. So for that, for example, some courses they can use it to support research. So around the school, staff are at the point of learning and really looking at how can they use it within the rules to support learners. - S3, Interview, principal teacher of Technologies, Scotland

However, children in the same school expressed frustration that 'all AI is banned in school', explaining '[i]t's all on the network. You can't access AI or anything' (S3, Senior 4-6, Group 3, Scotland).

Several teachers described a sense that guidance and professional development struggled to keep pace with technological change, making it difficult to establish consistent approaches across staff teams:

> We have had CPD [continuing professional development] sessions and discussions about the use of AI and have a policy. The problem is it often changes more quickly than we can have meetings about it. Being a tech school, our teachers are often primed to be quite enthusiastic about its use. We don't all agree on the best approach either. - S1, Interview, Digital Media teacher, England

Bypassing AI restrictions in school

At school, some children reported that they were not permitted to use AI chatbots, with schools described as having 'blocked' or 'banned' some or all AI services. Where access was restricted, the children and teachers explained that they sometimes found ways to bypass these blocks in order to use the technology:

> **Child** Since we have access to Microsoft, there's only one thing you can access AI-wise, and it's quite limited. That's just Microsoft Copilot...
> **Child** And you can't, like, search up Copilot, otherwise it blocks it.
> **Child** So you have to, like, ask a question into it, and then if it shows up with the Copilot option, you have to click on that.
> - S4, Year 9, Group 4, England

Where older children were required to use chatbots for classwork, but these blocks prevented all children in the school from accessing AI chatbots, some teachers described bypassing these barriers by encouraging pupils to use their phones as an alternative means of access:

> ... these are blocked on our network. The students can't access ChatGPT, Gemini or Copilot. So ... if they're doing it, they have to do it using their mobile phones. - S6, Interview, ICT coordinator, Northern Ireland

This sometimes went as far as teachers helping children bypass restrictions within the services themselves, including filtering around language, where the AI would not allow usage of words such as 'dead' as an image creation prompt:

> So if they typed in dead, the Canva would tell them they weren't allowed to do it. So we had to say lying on the floor. So they had to think ways around describing. Because obviously the two brothers [from Blood Brothers] shot each other. But they couldn't create this image using the AI. - S6, Interview, ICT coordinator, Northern Ireland

This allowance and encouragement, however, was not consistent across all subjects, with AI use in some cases restricted to specific lessons such as Computing (P4, Year 3, Group 3, England).

Overall, the findings highlight the increasing ubiquity of AI in children's personal and educational contexts, with evolving expectations centred on how its use should be appropriately managed within education. This reflects ongoing negotiation between traditional teaching approaches, concerns about its use in ways that bypass learning, institutional guidance and children's own practices, as well as variation in what different tools offer and children's developing literacy.

Selecting chatbots

Depending on their school's AI policies some children described their process of chatbot selection as 'limited' due to what they could access at school. At home, however, the children used a range of AI chatbots including ChatGPT, Gauth,[55] Copilot, Gemini and Snapchat AI. For each of these, the children had specific reasons for using or turning to a specific service.

Key drivers of this selection process were convenience, accessibility and cost; the children wanted chatbots that were free, convenient and 'quick and easy' to use (S4, Year 9, Group 4, England). For example, some mentioned that they used Snapchat AI instead of other chatbots because 'it's already there, right?' (S6, Year 10, Group 2, Northern Ireland).

Perhaps the most important consideration for children, however, was the need to access accurate information. In light of this, the children discussed moving between AI chatbots, shopping around for the most accurate information, or to verify answers:

> But sometimes Gauth gets it wrong, so I move on to another AI, ChatGPT, to ask. If that gets it wrong, I move on to another one. - S4, Year 9, Group 4, England

Fundamentally, the children's accounts revealed a nuanced and resourceful approach to selecting AI chatbots. Rather than seeing them as a single category of tool, the children differentiated between chatbots on the basis of their specific uses, accessibility and usefulness in particular contexts: 'Compared to other homework apps, I use Gauth because it gives you the answer and the learning steps' (S4, Year 9, Group 4, England).



S2, YEAR 7, GROUP 3, ENGLAND

01.3

The impact of AI on children

Learning and relationships

AI as a source of information and efficient assistance

Many of the children spoke at length about the benefits of AI, often in quite practical terms. The younger children often talked about AI in terms of 'robots', using the idea interchangeably with AI in ways that reflected how they understood the technology. When asked 'Why do you think a robot is good at school?', a child in Year 5 responded, 'I think they're easy because you can ask questions and you can have more assistance' (P3, Year 5, Group3 , England).

In this framing, AI was often seen as highly capable and broadly helpful, particularly in supporting schoolwork, answering questions and providing assistance with learning:

> I think robots are good for in school because robots basically know everything. They're AI, so they could tell you loads of stuff like history, maths.
>
> - P1, Year 5, Group 3, Wales

Many described it as a useful source of information that could help them understand topics more quickly or approach tasks in new ways.

The children also viewed AI as a way of saving time. They appreciated the speed with which AI systems could generate content or provide assistance. For some, this efficiency was one of AI's most important advantages, particularly when completing schoolwork or looking for information. One Year 10 pupil noted, 'I think it [AI] saves my time' (S5, Year 10, Group 1, England), while another explained that, 'Snapchat [AI] … answers quickly. It can send back pictures' (S6, Year 10, Group 1, Northern Ireland).

More broadly, the children often characterised AI as knowledgeable and capable of drawing together large amounts of information in ways that humans could not easily replicate:

> … there's loads of different ideas, and all of that goes combined into one thing, … like, Gemini … And then they can quickly search for one, like, for the answer, and then you have it so quickly that a human possibly can't do it, and they might become the smartest thing on the planet.
>
> - P4, Year 4, Group 2, England

Lack of trust

That said, one of the key topics that came up was whether AI-generated information could be trusted. The children in several schools discussed whether or not they trusted AI-generated content, with views varying widely. Some Year 8 children thought that 'AI is always right', while others in the same group were more cautious, suggesting that 'AI is right sometimes' (S2, Year 8, Group 3, England). This uncertainty was also reflected by younger children who noted that 'sometimes they can get things wrong' (P4, Year 3, Group 2, England) and 'It's sometimes wrong and it gets me very confused' (P1, Year 6, Group 2, Wales). Others in primary and secondary classes were far more sceptical, stating bluntly, 'I don't like AI, I don't trust it' (S4, Year 9, Group 4, England) or 'I feel like AI, I can't really trust that much' (P4, Year 4, Group 3, England), with some simply noting that 'they just get the answer wrong' (P3, Year 5, Group 3, England).

Across the schools, the children frequently raised and talked about occasions where AI had provided incorrect answers, and many emphasised the importance of checking information obtained from AI systems. As one Year 9 pupil put it: '[N]owadays, AI is getting madly advanced and they can give you loads of false information about random things' (S4, Year 9, Group 2, England).

Another Year 6 pupil similarly reflected on problems of inaccuracy: 'I don't like AI… Because it's only 80% right. And I don't like it because it always mainly gets it wrong. Like this morning it was just so bad. It [has] blind spots' (P1, Year 6, Group 2, Wales).

While some described AI as unreliable or prone to making mistakes, others felt that its usefulness depended on the task or subject, describing a more conditional form of trust. For instance, AI was seen as reliable in certain areas, such as mathematics, with one Year 8 pupil noting that AI is always right 'with math', but adding 'I don't trust it with anything else' (S2, Year 8, Group 3, England). Even some primary school-age children discussed how they might trust AI for mathematics or proofreading, but were less confident in its ability to answer more detailed or specialist questions accurately:

> AI is only good when it comes to like … math? No, not math. AI is only good when … say, you give it a sentence, it's good at telling you what your targets are and how you can improve it. But when you ask it like a detailed question like … science questions … it just is most likely wrong. - P1, Year 6, Group 2, Wales

Trust also varied between platforms, with some children expressing greater confidence in AI features offered by well-known technology companies than in standalone AI chatbots:

> **Child** Google is obviously a billionaire company. Trillions … and they're known for having accurate things.
> **Researcher** So Google you would trust?
> **Child** Google I would trust. There are other platforms I wouldn't. Bing is known for making couple of mistakes, but not too big. There are other companies that make mistakes and things, yeah. Like ChatGPT as well. Sometimes Google can be wrong because if you ask the same question to Google and Google Chrome, they will both give different answers.
> - S4, Year 9, Group 2, England

Challenges identifying AI-generated content

The children also reflected on the increasingly human-like nature of AI chatbots. Some found it unsettling that systems such as AI assistants could hold conversations that resembled interactions with real people, remarking that it 'does feel weird' and you can 'have a full on conversation with it' (S1, Level 1, Group 2, England). While they recognised the usefulness of these tools and their ability to provide information, the conversational nature of AI sometimes blurred distinctions between human and machine interactions, creating discomfort and uncertainty about how much trust should be placed in such systems.

Scepticism extended beyond AI itself to online information more generally, with some children pointing out that 'online, people, anyone can change anything and, like, it might not be true … and the half of it is made by AI' (S2, Year 7, Group 3, England). A particular concern was the growing difficulty of distinguishing between real and AI-generated content online. The children noted that AI-generated videos and images can sometimes appear without labels, watermarks or other indicators that reveal their origin. This raised concerns about the potential spread of misleading or deceptive content, and the challenges of determining what information can be trusted: 'You can get, like, AI videos without a watermark or anything like that' (S4, Year 9, Group 2, England).

Concerns about harmful or deceptive content were especially evident among younger children, who spoke about these risks in notably strong and sometimes alarming language. The children frequently used words such as 'dangerous', 'weird', 'devilish' and 'creepy' to describe AI. Several explained that they had learned about these risks through lessons on online safety and digital literacy:

> The AI can be dangerous because … Sometimes there are videos where it's like, try to figure out which one's AI and which one's real. And then you are like, oh, that one's definitely real. And then it turns out it's AI, so it can be a bit scary how it can trick you. - P4, Year 4, Group 2, England

One secondary school pupil also described AI slop as horrible, calling for it to be banned (S1, Level 1, Group 1, England).

AI governance and accountability

One teacher highlighted both the inevitability of AI's continued presence and concerns about governance and accountability, stating: 'AI is not going away … there are genuine concerns about keeping children safe online. And I do think the multi-trillionaires running this show need to be held to account' (P1, Interview, headteacher, Wales). They went on to question whether governments have the capacity or willingness to regulate effectively at the scale required, reflecting wider unease about whether existing systems of oversight are sufficiently robust to match the pace and influence of major technology companies.

Alongside these concerns about accountability, education professionals also emphasised the need for a more structured and intentional approach to AI in education. As one assistant headteacher explained:

> I think all technology can help as long as it's managed properly, but I think ... it can't just be a let's use it, it needs to be strategically thought out and planned how we're going to use it. It's too simplistic to just go, oh, use AI in lessons. No, if we're going to use it, we need a strategy, we need a natural approach. It needs a much bigger thought process, I think. - S2, Interview, assistant headteacher and Geography teacher, England

Together, these reflections point to a dual emphasis in educator perspectives: a strong expectation that AI should be governed and held to account at a systemic level, and a clear preference for its use in education to be deliberate, strategic and embedded within a wider pedagogical framework rather than introduced in an ad hoc manner.

Cheating and cognitive offloading

A recurring concern was that AI could facilitate dishonesty and reduce effort. While some children considered the use of AI for homework 'feels like cheating' (S6, Year 11, Group 1, Northern Ireland) or is 'basically cheating' (S1, Levels 2 and 3, Group 2, England), others argued that it depends on how it is used, as 'the issue is probably not the tool, it's just how we're using it' (S1, Levels 2 and 3, Group 2, England). Nevertheless, examples were provided of children using AI to complete assignments on their behalf, and some expressed frustration that AI-assisted work could receive equal or higher marks than work completed independently. This was seen as undermining fairness and rewarding lower levels of effort (S6, Year 11, Group 2, Northern Ireland):

> I actually hate the cheating side of [ChatGPT]. If you're using ChatGPT for fun, that's fine ... However, if you're using it for education, ... say that you're a doctor, right? ... I feel like I wouldn't trust my doctor in the future generation because they would get their answers from ChatGPT. - S1, Levels 2 and 3, Group 2, England

The children also expressed concern that reliance on AI chatbots could negatively affect their learning and skills development. Many worried that obtaining answers directly from AI reduced opportunities to think independently, solve problems and develop critical thinking skills. They frequently described AI as enabling shortcuts that might help complete a task but not necessarily support understanding. Several argued that learning requires effort and practice, and that excessive reliance on AI risks weakening important cognitive skills and creating dependency on the technology:

> I don't know, I just feel like you don't learn properly from getting someone else to do it for you ... Your brain needs it. You need to keep your brain exercising. - S2, Year 8, Group 3, England

On the other hand, some children reported being wrongly accused of using AI to complete homework, leading to feelings of frustration and mistrust. This suggests that AI has the potential to affect trust and relationships between teachers and pupils:[56]

> And the teachers, like, overview our Sparx homework, so they check how much time we've spent on it. And if they see, like, oh we've been doing it for very long, but, like, we have put in time to think about it, more than, like, type it in, then they'll think, oh you've used some type of AI to do your homework and they'll give you a detention. Most probably. - S4, Year 9, Group 1, England

Alignment with intended learning outcomes

Attitudes towards children's use of AI among both the teachers and children appeared to be shaped significantly by intended learning outcomes. As some children described using AI chatbots alongside their learning to support understanding and task completion, teachers similarly framed acceptable use in terms of supplementation, rather than substitution, of children's own work or learning processes. As one Digital Media teacher explained:

> Sometimes, using AI might be deemed to be okay, as it's for something complementary. For instance, while I wouldn't allow a student to use an AI image generator to create a logo if the student was doing their Graphic Design unit, I might allow them to do this if they were creating an advert for their video unit and just wanted a logo to appear briefly at the end of the video. In this latter case, I'm more concerned about what they're learning about video editing than graphic design so if the graphic design is not their own work this doesn't matter in this instance. - S1, Interview, Digital Media teacher, England

This sometimes revealed a tension between traditional teaching methods and the rapid normalisation of AI among children, with teachers explaining that they needed to re-emphasise the intended learning outcomes of tasks in response to AI becoming a more naturalised part of children's study practices:

> I'm constantly having to tell them to rewrite things in their own words when they turn in answers generated by ChatGPT. I try to not be punitive or have rigid rules around it. Rather we have discussions about what they are learning or missing out on learning when they use these tools. - S1, Interview, Digital Media teacher, England

The same teacher was concerned that the use of AI could lead to a reduction in expectations for children:

> There's a short and obvious step to how this could lead to low expectations of our learners and an approach to education that focuses on style over substance and work that is superficially impressive but that doesn't contain much deep learning when you scratch beneath the surface.

Similarly, another English teacher stressed the lack of 'depth' and 'substance' to AI-generated essays, adding 'you can tell when it's AI written versus a person' (S4, Interview, English teacher, England).

As explored earlier in this chapter, some of the children appeared to internalise this emphasis, taking care to clarify to the researcher that they were not 'cheating' and demonstrating awareness of the expectations around when and why supplementary tools should be used to support intended learning outcomes:

> I've been asked by a teacher to use it, but not using it necessarily for work that you need to do yourself. Like, if you need to look for information, you can use it. - S1, Levels 2 and 3, Group 1, England

When used in line with intended learning outcomes, the teachers and children described AI as a valuable learning support tool, particularly for revision, homework and independent study. One teacher reported clear improvements in attainment among students who had been taught how to use AI effectively for revision (S3, Interview, principal teacher of Technologies, Scotland).

Using AI in professional practice

Views on, and use of, AI varied considerably between teachers. Some were enthusiastic advocates, viewing AI as a practical tool that could reduce marking, streamline lesson planning and free up time for teaching. Others were more cautious, either questioning its value or feeling uncertain about how best to incorporate it into their practice.

The teachers described using AI chatbots in a variety of ways to support their professional practice, primarily as a means of reducing workload and improving efficiency. They reported using tools such as ChatGPT and Copilot to generate model answers (S2, Interview, assistant headteacher and Geography teacher, England), draft referral documentation for children with additional needs (P1, Interview, headteacher Wales), create lesson resources and presentations and prepare cover lessons (S2, Interview, assistant headteacher and Geography teacher, England). Many viewed these tools as valuable time-saving aids, particularly for administrative and routine tasks, but also for tailoring resources to different needs:

> So we would use Google Classroom and Gemini and everything to tailor our resources to differentiate. If we do a worksheet, we use Gemini to maybe create three different versions and give it out to three … depending on their ability and their need. - S6, Interview, head of ICT, Northern Ireland

For some teachers, the benefits of AI appeared self-evident. These teachers described using AI extensively in their own work, and expressed confusion as to why colleagues continued to rely on more time-consuming approaches when AI tools could automate many routine tasks. From this teacher's perspective, resistance to AI reflected habit rather than any inherent limitation of the technology:

> I'll say for the last two to three years, I've been delivering several sessions to members of staff about, right, you can make a homework in 30 seconds, you can then set it in forms to automatically mark so there's no marking. And some of them, when they see it, they're like, "Wow, this is amazing". But then, of course, when they go back to the classrooms, they revert to their old ways. And you sometimes have that battle in education, people have just been teaching for that long. They're stuck in their ways and they don't want to change anything. - S2, Interview, Computer Science teacher, England

Some children, however, expressed scepticism about teachers' use of AI, describing heavy reliance on AI-generated materials or AI-assisted marking as evidence of laziness or reduced professional effort. For these children, awareness of teachers' AI use could undermine their confidence in the teachers' expertise and commitment:

Researcher Why don't you like that they [your teachers] use AI?
Child So they can get the right answers. It lets them be stupid.
Child How are you supposed to trust them?
- S2, Year 8, Group 3, England

While some of the children expressed that AI-generated PowerPoint presentations were acceptable when teachers used them as a basis for explanation and discussion, others felt that heavy reliance on chatbot-generated content could make lessons feel more scripted, impersonal and less engaging:

Child I think if they use AI but then they can explain the PowerPoint properly, I don't think it's bad because if they're using the board as a prompt and then they explain how you're meant to learn it.
Child Yeah, but most teachers just read off the PowerPoint and don't actually teach. It's really frustrating.
- S4, Year 9, Group 3, England

The teachers expressed mixed views about the extent to which AI chatbots should be used in teaching-related activities. While some regarded their use as an obvious and practical solution to workload pressures, others were more cautious. One teacher described feeling torn between the efficiency benefits of AI chatbots and a preference for independently producing work, such as pupil reports, to ensure it reflected their own professional insights:

> [W]e were told this year when we wrote our reports to not use ChatGPT. Personally, I don't because … I'm archaic and … I know when I write a report, I like it to be from the heart about my students, so I don't tend to. But on the other hand, … I've been sitting there doing things and [my partner]'s like, "but if you just do this, it will save you so much time". And I was like, "oh". So now I'm torn. I'm like, do I stick with my archaic ways where it takes me forever and I know exactly what I'm doing or do I … ? - P3, Interview, Year 5 teacher and PSHE lead, England

Others expressed reservations about its application in certain aspects of teaching. When one English teacher was asked 'Do you foresee a day when AI is going to do your marking for you', they responded:

> I could see the day where it does, but I wouldn't welcome it … [M]arking in English, it's very difficult because it's a subjective task. Like, how do you teach a computer that the simile has emotion behind it, because it's not something that has emotions, so it's very difficult to kind of marry that with the mark scheme … [M]arking helps make you a better teacher, because each class is going to be different. I might have a class that is struggling with their sentence structure, and I'm going to pick that up in the marking. If the computer's marking it for me then how am I going to pick that out? - S4, Interview, English teacher, England

This teacher emphasised the importance of marking as a core component of their teaching practice, arguing that AI may make or miss mistakes and not identify nuanced issues or learning needs that a teacher would recognise when reviewing the entire class's work.

Similarly, older children often associated teachers with showing they 'cared' by spending time on marking, and giving it time and attention. **The children suggested that personalised feedback from teachers contributed to a sense of being known and supported, whereas automated assessment risked weakening these connections.**

Child If the teachers actually cared, it would actually make a difference.
Researcher It would make a difference if teachers cared. How do you feel like a teacher would show you they cared?
Child Well, like, they take time to mark our tests and, like, mark our books.
Child To be fair, That's what [teacher] does, but it takes him ages.
Child At least he does it, though.
- S5, Year 10, Group 2, England

Younger children particularly highlighted the importance of human relationships, care and supervision in learning environments. When provided with visual prompts created by AI of a robot teaching a classroom of children, one child said:

> So it would be quite hard because robots probably haven't been taught you're not allowed to hurt children. But if children were talking in class when they're not supposed to, the robot might hit them, which could harm them or potentially fatally harm them. - P2, Year 6, Group 1, England

These findings suggest that, for many of the children, teaching involves more than the transmission of knowledge or the efficient assessment of work. The children often viewed activities such as marking, providing feedback and responding to individual needs as important demonstrations of care, effort and professional commitment. While AI-assisted assessment may offer efficiency benefits, some worried that excessive reliance on automated systems could weaken relationships between teachers and pupils and reduce opportunities for personalised support.

More broadly, the children's comments highlight that trust in teachers is closely connected to perceptions of authenticity, expertise and care. Where AI was perceived as replacing rather than supporting teachers' professional judgement, some children questioned both the quality of the educational experience and the extent to which their individual needs and achievements were genuinely recognised.

The teachers also expressed concern that AI was sometimes being used uncritically to produce teaching materials that prioritised efficiency over educational quality:

> I actually think that some teachers use it [AI] a bit too uncritically ... We can't expect our learners to use AI productively if we don't ourselves. I've been asked to cover classes before and been given lesson plans that are AI-generated and almost entirely useless. - S1, Interview, Digital Media teacher, England

Overall, the findings suggest that teachers see AI chatbots as useful tools for supporting routine and administrative tasks, but remain cautious about their use in areas that rely heavily on professional expertise, contextual understanding and meaningful interaction with children.

Algorithms, automation and personalisation

Significant concerns were also raised about the use of automation systems within educational platforms. Many of the children felt that algorithmic-driven personalisation often failed to meet their learning needs. Some described being 'punished' for performing well, as systems automatically increased the difficulty of tasks. Teachers similarly noted that when the children used AI tools to generate answers, adaptive learning platforms incorrectly assumed mastery and subsequently assigned work that was too difficult:

> Sparx does recap, and consolidation work that it chooses for them in particular. So it's a bit of an AI program, so it works to their level. So at the moment we're trying to convince the students that using AI to answer the questions kind of messes everything up, because Sparx just sets them really hard work to do, which they can't do because they've been doing zap, zap, zap. - S4, Interview, Maths lead teacher, England

The children also reported becoming trapped in repetitive learning loops, where AI systems repeatedly presented similar questions rather than adapting effectively to their difficulties (S4, Year 9, Group 3, England). Others questioned the quality and accuracy of AI-generated content, citing examples of confusing homework tasks, incorrect responses, language errors and systems failing to recognise correct answers (S5, Year 9, Group 1, England). Some of the children believed that AI-assisted marking and assessment had resulted in them being placed in inappropriate ability groups:

> **Child** The sets are done by AI as well.
> **Child** The sets ... So every year, at the end of the year, we take ... an end of year test to check what sets are in the year, and they're marked by AI.
> **Child** They're not going to sit marking all of them.
> **Child** People get put in the wrong sets.
> **Child** Yeah, like me. Should not be in the set.
> - S5, Year 10, Group 2, England

Children learn by making mistakes and building on previous knowledge and effort. This friction is important not only for learning new information, but also for learning how to cope with being wrong, manage embarrassment in front of peers, and recognise when they have arrived at the

right answer for the wrong reason. Much of this happens through interactions with other children and adults, through 'scaffolding' and teacher guidance, not by information transfer alone. Learning involves thinking and acting with others to deal with difficult situations, solve problems creatively, and build self-regulation, motivation, confidence and positive attitudes towards learning. When children use AI uncritically to do their work for them, they skip this friction. When children turn to AI instead of their parents or caregivers, teachers and peers, displacing vital human interactions, it places them at a disadvantage. By reducing learning to information and grades, they are essentially skipping the essential step of building a structure and foundation for present and future learning.

Commercial exploitation and widening divides

Commercial interests and forced integration of AI

The children suggested that technology companies had incentives to make users increasingly reliant on their AI-powered products and services, and expressed concerns that AI was being promoted in ways that encouraged dependence on technology and reduced opportunities to develop important skills such as independent research, critical thinking and problem-solving:

> I think the problem with it is just more like the ease, and I think that's why lots of companies are pushing it, because companies would … love it if it was like WALL-E and how everyone was like on those chairs and going to get all that food and … they can't do anything. Because then it means they control basically like, "Oh yeah, now you have to rely on us" kind of mentality. I think that's why it's being pushed so much. - S1, Levels 2 and 3, Group 2, England

Many of the children were frustrated by what they perceived as the forced integration of AI into everyday technologies. They highlighted examples of AI features being embedded within operating systems, search engines, web browsers and educational applications without clear options to disable or opt out of them. For some, this reduced their sense of control and choice over how they accessed information and completed their learning activities:

> Well, to be honest, do we have a choice? Because companies are trying to force AI on us. Because, for example, Windows 11 has a built-in AI system that you can't turn off no matter what you do. And that's why they … removed support for Windows 10 because they're trying to force people to go to Windows 11.
> - S1, Level 1, Group 2, England

These concerns were also evident in educational contexts. The children described encountering AI-generated summaries and responses during online searches conducted for schoolwork, even when they would have preferred to engage directly with source materials (S1, Levels 2 and 3, Group 2, England). Some viewed the growing presence of AI as limiting their ability to choose how they learned and interacted with information (S1, Level 1, Group 2, England).

Premium models and widening attainment gaps

The children also noted that many educational technologies reserve advanced AI features for paid subscriptions, limiting access for those who could not afford premium versions (S4, Year 9, Group 4, England). One Year 10 pupil explained, when 'I tried to use the Seneca AI … it told me to ask my parents to pay for an upgrade', adding, '[t]hen he put out a link where I can send an email to my parents', explaining that her parent's email was already prepopulated (S5, Year 10, Group 1, England).

One teacher explained that they introduced an app called 'Vizcom' in their school because they were aware that children from more affluent families had parents or adults who were pointing them towards using AI for their learning, whereas those from less affluent backgrounds did not:

> Our concern was the attainment gap could widen because those in a more affluent area with parents that are aware of it could be pointing their young people towards [AI], or staff, could be pointing them to use AI to support them for their learning. And then our young people who don't have [AI] … because we do have a sizable number of students that don't have internet at home.
> - S3, Interview, principal teacher of Technologies, Scotland

As a result, we saw that unequal access to AI resources risks widening existing attainment gaps rather than reducing them.

Privacy and data protection

The findings also suggest that the children have emerging concerns about privacy, data protection and the information they share with AI systems. While some schools enabled access to AI tools such as ChatGPT, the children reported using these systems without creating personal accounts, suggesting attempts by schools to reduce data collection and account-related privacy risks (P1, Year 6, Group 3, Wales).

Despite this, the children expressed uncertainty about what happened to information entered into AI systems and how such information might be used. Some worried that personal or private information shared with AI could be collected, stored or used in ways that were beyond their control. These concerns were often framed through broader fears about AI becoming increasingly powerful as it learns from human interactions. Although some of these concerns reflected popular narratives about AI 'taking over the world' (P4, Year 4, Group 2, England), they nevertheless demonstrate children's awareness that AI systems gather information, and this raises questions about privacy, data use and accountability:

> [P]eople predicting that AI is going to take over the world and robots because everything that people says to them that's private, they can take all of that and put that together and become the ruler of the world.
>
> - P4, Year 4, Group 2, England

Wider societal concerns

The children and the teachers were aware of wider societal concerns surrounding AI, and many conversations encompassed issues beyond the classroom. Some children and educators raised environmental issues, commenting on the energy and water resources required to operate AI systems, and questioning whether current deployment is sustainable or justified in education settings. Some children worried about the impact of AI-generated content on human creativity, particularly in relation to art, arguing that AI could replicate work that people had spent considerable time and effort creating. One child reflected on the unfairness of this: 'Someone could have worked pretty hard to make that but then AI simply replicates it' (S5, Year 10, Group 3, England).

Some teachers noted that the children were often more confident and advanced in their use of AI tools than the adults in the classroom, which is reshaping expectations around learning and support.

Overall, **children's views of AI were rarely wholly positive or wholly negative, reflecting a broader pattern seen in their engagement with digital technologies more generally**. Instead, many recognised both the opportunities and risks, clearly valuing its convenience and usefulness while remaining alert to concerns about accuracy, deception and wider social impacts.

Importantly, AI was not viewed purely as an educational tool. The children described using and experimenting with it in a range of contexts, suggesting it is already becoming embedded in their wider digital lives rather than being confined to schoolwork.[57] While some older children were able to demonstrate more of an awareness of AI growing and changing in its impact, younger children were not unaware of wider debates about the technology, with children across all age groups appearing to absorb and reflect adult concerns and public discussion, learning about AI in much the same way as society as a whole.

Well, to be honest, do we have a choice? Because companies are trying to force AI on us.

S1, LEVEL 1, GROUP 2, ENGLAND

Conclusion

Overall, **the reflections from both the teachers and the children suggest that AI can both support and undermine children's right to learn, depending on how it is implemented and used.**[58]

The children and teachers recognised the potential benefits of AI chatbots as educational tools. However, there was widespread concern that inappropriate or excessive reliance on AI may undermine learning, reduce independent thinking and weaken the development of key academic skills.

The children spoke openly about the opportunities AI creates, the problems it can cause and the uncertainty they sometimes felt about when and whether it should be trusted. Their reflections were often strikingly nuanced, balancing enthusiasm for AI's usefulness with concerns about its wider consequences. They expressed concerns about the impact of AI on teaching and pedagogy. Some felt that excessive reliance on AI-generated lessons and resources reduced teacher involvement, making learning feel impersonal and robotic (S4, Year 9, Group 3, England).

While the children acknowledged that AI could be useful as a supplementary tool, many emphasised that it could not replace teachers' expertise, emotional support, understanding and ability to respond to individual needs. Teachers, too, recognised its potential value when used strategically, but voiced strong concern about safety, accountability and the extent to which children's data and experiences are shaped by systems that lack transparency or sufficient oversight.

The findings also suggest that while AI may improve access to support and reduce workload, it can also displace human interactions, alter patterns of trust and challenge the relational aspects of teaching, learning and communication that many participants viewed as important.

Many questioned the motivations behind the rapid expansion and widespread adoption of AI, whether it is being driven by the commercial interests of technology companies or children's best interests, and what it means for children's privacy, learning and future. Children's perspectives highlight the importance of ensuring that decisions about the design and implementation of AI in education prioritise children's rights, agency and long-term learning needs over commercial objectives.

02



Digital Homework

Key takeaways

One

Digital homework can reinforce existing inequalities:
Having access to technology does not necessarily mean having what a child needs to use it effectively. Differences in devices, Wi-Fi, paid subscriptions and support can create an unequal homework experience, with children who have fewer resources facing greater obstacles and having to find their own workarounds.

Two

School surveillance is extending into the home:
Children described being aware that their activity could still be monitored at home through school devices and filtering systems. This can blur the boundary between school and home, leaving children feeling that they remain visible to school outside the classroom. Children need time when they are not learning, being monitored or expected to respond.

Three

Children are optimising for the platform, not their learning:
Rigid demands such as timers, exact-match answers and fixed task formats can lead children to find workarounds simply to satisfy the system. When the technology becomes an obstacle to completing the work, children can end up learning how to succeed within the platform rather than engaging with the learning itself.

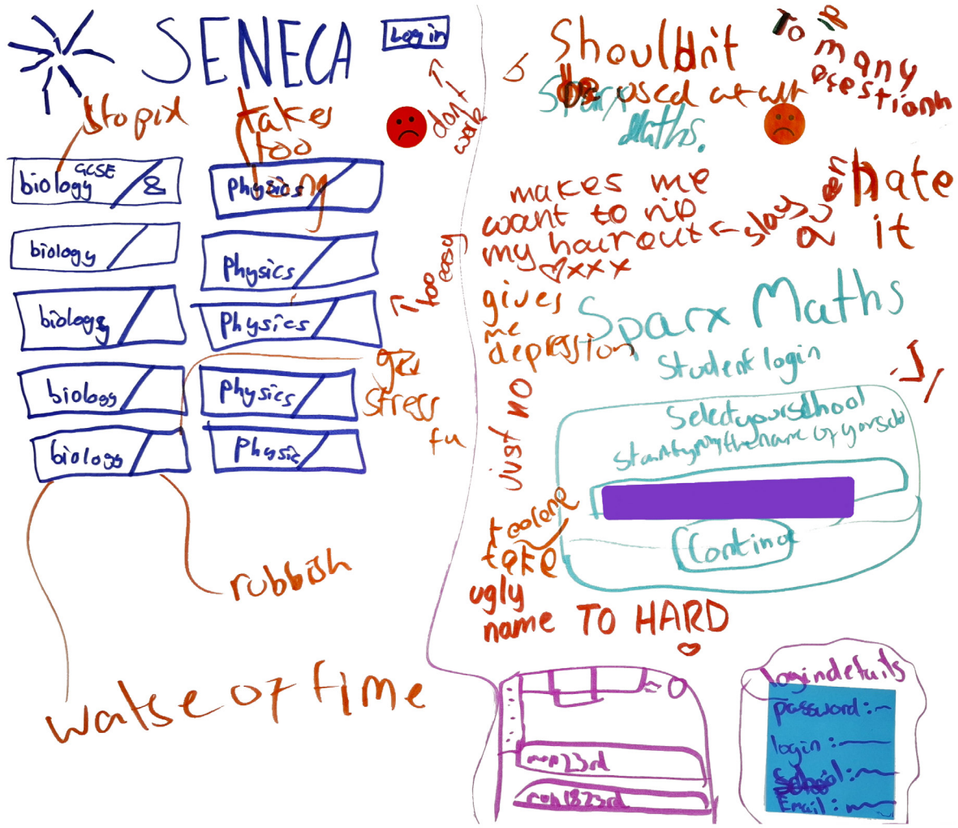


FIGURE 4
Year 8 pupils' drawing of Seneca and Sparx Maths during a workshop activity

Introduction

The growth of digital technologies has fundamentally changed where and when homework takes place. Just as digital technology has made work increasingly portable for adults, allowing it to move beyond traditional workplaces and into homes, evenings and weekends, so has EdTech enabled schoolwork to travel beyond the classroom through online homework platforms, digital worksheets, learning management systems and apps. While homework has long formed part of children's education, digital technologies have changed both how it is assigned and how it is completed. The widespread adoption of remote learning during the COVID-19 pandemic further accelerated this shift, normalising towards making digital platforms the routine means of delivering learning beyond the school day.

These developments raise important questions about the changing relationship between children, education and technology, and school as a defined place in a child's life.[59] As learning becomes increasingly portable, the boundaries between school and home, formal learning and leisure, and teacher oversight and family life become less distinct.[60] Educational technologies can increase flexibility, improve access to learning resources and support communication between schools and families. At the same time, they may alter children's experiences of home, extend expectations of availability beyond the classroom and create new inequalities for children whose home environments or access to technology differ.

This chapter explores how children and teachers experience the growing use of EdTech beyond the classroom. It begins by examining the range of apps and platforms children use for homework, alongside their views on the benefits and challenges of using these technologies. It goes on to discuss issues of automation and surveillance in relation to how homework is set and marked, and unpicks the conditions under which children complete homework, including issues of equity in access to devices at home and the inclusivity of homework practices. It questions how technology is reshaping the purpose, experience and perceived value of homework in UK schools, as well as the opportunities and challenges it presents for children's rights to education and inclusion.

I just do it on a tablet.

I don't have a laptop. I can do it on my brother's laptop though.

P3, YEAR 5, GROUP 3, ENGLAND

02.1

Homework apps and homework management systems

The children described using a wide range of digital applications to complete and manage homework. These included subject-specific learning platforms, productivity software, homework management systems and, increasingly, AI tools, with the particular apps varying between schools and phases.

Platforms used for homework

The primary school children commonly referred to homework applications such as Times Tables Rock Stars (P2, P3, P4, P5), Learning by Questions (P5) and Reading Plus (P3), while the secondary school children described using platforms including Seneca (S2, S4, S5), Sparx Maths (S2, S4), Quizlet (S3, S6) and BBC Bitesize (S3, S6). Alongside these, the children also used productivity software such as Microsoft Word (P1, S5, S6), PowerPoint (P1, S5) and Google Docs (S3, S6) to complete and submit work, and a few mentioned using AI tools, including ChatGPT, Copilot and Gauth AI, to help with homework (S2, Year 7, Group 3, England).

Homework management systems

Across the schools, homework management platforms played a central role in organising homework. Systems including Google Classroom (P1, P2, P4, P5; S3, S6), Microsoft Teams (P1), GO 4 Schools (S4), EduLink (S5), Class Charts (S2) and ClassDojo (P2) were used to communicate homework, provide links to learning resources and, in some cases, enable the children to submit work electronically. The children described these platforms as acting as a central point for homework and wider school communication. One primary school child explained: 'Google Classroom is where we do our homework on. So, say if we had an iPad, we logged into Google Classroom. All our homework is on there' (P5, Year 3, England).

Similarly, the secondary school children described EduLink as bringing together homework tasks and links to the relevant websites: 'When you go on here, it tells you, like, the websites that you need to go on in order to complete the homework' (S5, Year 9, Group 2, England).

In Wales, the children accessed many of these platforms through the government portal Hwb®, which one child described as giving access to 'Big Maths at Home and Microsoft 365 ... Outlook, J2Easy and a lot of stuff that you need in the classroom' from a single log-in (P1, Year 5, Group 2, Wales).

Children's views on digital homework systems

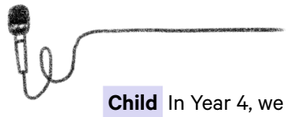
Organisational benefits

The children found homework management platforms, most often Google Classroom, useful for organising homework, with one describing it as functioning like 'a big folder' (S3, Senior 4-6, Group 1, Scotland). These platforms enabled the children to keep track of assignments, while teachers could monitor progress and send reminders before deadlines (S5, Year 9, Group 2, England). One child explained that, 'If you haven't marked it as complete, the teachers will send you an email as a reminder the day before the homework's due' (S5, Year 9, Group 2, England). Others described satisfaction from marking tasks as complete, with one Year 9 pupil explaining, 'As soon as I start marking them off, I just feel so much better' (S5, Year 9, Group 2, England). Homework management platforms also served as gateways to other digital resources, directing the children to subject-specific applications or online activities needed to complete assignments (P5, Year 4, England; S5, Year 9, Group 2, England).

Usability and substitutions

However, the children also highlighted that the usability of homework platforms influenced their experiences of completing homework, and that platforms were often substituted or replaced in response to technical problems or changing year group conventions, rather than through a stable, planned approach (P1, Year 6, Group 3, Wales; S2, Year 7, Group 3, England). In one secondary school, the children explained that when problems arose with one platform, teachers adapted by using another: 'So basically, we told the teacher how Seneca doesn't work sometimes, and then he said, I'll send it to you on Forms' (S2, Year 7, Group 3, England).

In one primary school, the children described being moved from Google Classroom onto Teams as they progressed through year groups, with one explaining they no longer used Google Classroom 'in Year 3 and 2 and 1' (P1, Year 5, Group 2, Wales) but now used Teams instead, and another describing reverting from digital to paper-based homework after finding Microsoft Teams difficult to access on Chromebooks in Year 4:



Child In Year 4, we did it on Chromebook. But none of us could really get to it.
Researcher Oh, in Year 4? Why in Year 4?
Child Because it was on Teams in Year 4. And now it's just on paper.
- P1, Year 5, Group 2, Wales

The children who had experienced both Google Classroom and Microsoft Teams in primary school generally preferred the former to the latter, finding it easier to access and navigate. One child explained: 'I really do actually miss the Google Classroom one because I really liked it. And it was much easier to do your homework' (P1, Year 6, Group 3, Wales). The same child noted that Google Classroom had been easier for parents to access and monitor homework, suggesting that the design and usability of homework platforms could influence not only children's experiences but also parental engagement with homework.

Teachers also noted that platforms varied in the format of homework responses they supported, from simple multiple-choice questions to fill-in-the-blank, reordering and labelled diagram formats, with the head of Science in Scotland expressing a clear preference for platforms offering a wider range of question types over those limited to typed short answers.

While these systems supported the organisation and delivery of homework, inconsistency in platform use and differences in usability could create additional demands for children and, in some cases, their parents or caregivers.

Digital vs analogue

Some children described apps such as Big Maths, Times Tables Rock Stars and Reading Plus in straightforwardly positive terms, considering them helpful for learning (P1, Year 5, Group 1, Wales; P3, Year 5, Group 1, England). One teacher argued that no single teacher could give every child in a class of 30 the kind of individualised, comprehension-checked reading support that these platforms provide, and suggested this kind of tool could make a real difference to literacy at scale (S2, Interview, assistant headteacher and Geography teacher, England). The same teacher noted that revision sites such as BBC Bitesize and Oak National Academy could help fill the gap for pupils whose parents or caregivers weren't able to support them with homework at home.

Some children in another school (S5, Year 9, Groups 1 and 3), however, argued that Reading Plus did not work properly, and was constantly tracking their engagement. They added that, due to these reasons, they would rather read from a book instead (see Chapter 3, 'Timers and speed').

In several schools (e.g., P4, P5; S2, S4) the children described homework that combined online platforms with written work. For example, one primary school child explained: 'we have to do LBQ [Learning by Questions] and then you have to do some books' (P5, Year 6, England). Similarly, secondary school children described completing work online while also writing in exercise books. One group confirmed they were 'doing everything on the screen, but you're also writing it down in a book for maths' (S4, Year 9, Group 1, England). Others explained that online platforms were commonly used to distribute or remind children about homework, while the work itself was completed on paper: Yeah, because most of [it is] … set on GO 4 Schools, but then, yeah, they normally give us like paper sheets to do' (S4, Year 9, Group 1, England).

Several children reported a preference for paper-based homework, with some suggesting they felt they 'learnt a lot more' from physical tasks than from digital equivalents (S4, Year 9, Group 4, England), although it remains unclear from this evidence whether this reflects a genuine pedagogical difference or frustration with specific platforms.

Similar to the sentiments of some children discussing AI, offline homework was valued as a deliberate escape from an increasingly digital landscape. One child explained a preference for reading from a book so they 'can break from internet' (S2, Year 8, Group 3, England). This suggests that for, at least some children, homework is not experienced simply as a learning task but as another point of entry into an online environment they may already feel is too present in their lives. Where homework requires a device and an internet connection by default, it may leave little room for children to choose the kind of break this child described.

Navigating multiple platforms and apps

The children's homework was evidently mediated through an increasingly complex digital ecosystem. Rather than interacting with a single homework platform, many children described moving between homework management systems, communication platforms and subject-specific applications, with different teachers sometimes using different tools or adapting to technical problems by switching platforms.

Children in one group reported having to remember two separate methods to solve maths problems, one taught in class and one required by the platform or 'suite' of technology (e.g., Google Classroom), in order to satisfy both:

> ... we do the workings out in school, and then when you do the workings out to get the answer, it always says it's wrong. And when you watch a video, it tells you a different way of working it out, so it's kind of confusing, because you have to remember one way for school and one way for Sparx, because it's different.
>
> - S4, Year 9, Group 1, England

This suggests that some applications may compete with, rather than reinforce, classroom teaching.

Technical issues

Several children experienced technical problems with homework services. Across different groups, children linked Sparx Maths specifically to real frustration, and in some cases to classmates crying (S4, Year 9, Group 3, England). Problems such as log-in failures on Seneca came up repeatedly in one school (S2, Years 7 and 8, Group 3, Year 8, Group 1, England), and children in another school said they were rarely shown how to use a new platform before being expected to get on with it (S4, Year 9, Group 1, England).

02.2

Setting homework

Frequency

Homework varied considerably in how often it was set, and this varied by school, subject and year group. Some children reported not receiving homework every day (S2, Year 7, Group 2, England), while others described a weekly cycle: one group received homework through Sparx Maths weekly and Languagenut every two weeks (S4, Year 9, Group 1, England), and a primary school child described practising spellings across the week ahead of a Thursday test (P5, Year 3, England). In one school, the frequency of homework depended on set, with children in the top maths set receiving none while lower sets received it 'to help everyone catch up' (S2, Year 8, Group 2, England). Teachers similarly described setting Seneca homework on a regular weekly basis, with one assigning 'about 20 minutes' of 'short questions, short answers, knowledge recall' each week (S2, Interview, assistant headteacher and Geography teacher, England). Children in one secondary school (S1) reported receiving no homework at all.

Subject-specific homework

Subject teachers made markedly different choices about whether, and how, to use digital platforms for homework. One secondary school English teacher stated that 'we don't tend to use technology for homework', since the children needed to 'practise writing at length by hand' (S4, Interview, English teacher, England), whereas a Maths lead teacher in the same school described restructuring the department's entire scheme of work around Sparx, using it to keep sets working at a comparable pace, tailor consolidation to individual children, and reduce teachers' marking burden. Variation in the use of EdTech for homework may therefore be indicative of differences in learning practices and pedagogical priorities across subjects, alongside practical considerations such as convenience and workload.

Timed homework

The children frequently expressed distrust of the time estimates provided by these platforms. One group described Sparx as claiming homework would take '20' or 'about 30' minutes, describing this as 'a lie' (S5, Year 10, Group 3, England), while another child stated that 'everyone hates Sparx' because it demanded a full hour regardless of how many sections a child was set (S4, Year 9, Group 1, England). (For more on this, see Chapter 3, 'Timers and speed'.)

02.3

Marking homework

Automation and rigidity

As discussed in Chapter 1, automation of the marking process raises concerns about what gets lost when a teacher is no longer *directly* involved. One English teacher, who marks homework herself rather than relying on automated tools, argued that 'marking is valuable because ... it instructs your teaching', and that the time this takes, while frustrating, is worth it for what it tells her about her pupils (S4, Interview, English teacher, England).

Language learning applications were repeatedly criticised for rigid exact-match marking, penalising a single missing space, accent or ellipsis without explanation or the possibility of correction (S4, Year 9, Groups 3 and 4, Year 9, Group 1, England), and children drew explicit comparisons with Duolingo, which they perceived as more tolerant of minor variation. One Year 9 child described how a homework platform required them to answer the same type of question incorrectly multiple times before offering a different explanation, interrupting rather than supporting their understanding: 'If there's a question that you don't know and you stop, you've got to wait, like, after 20 attempts to give you a new question. It's really annoying' (S4, Year 9, Group 1, England).

Some mathematics applications required an entire set of questions to be redone if a single final item was answered incorrectly (S5, Year 9, Group 2, Year 10, Group 3, England), and the children's own accounts suggest this could be counterproductive, with one child stating plainly that the system had taught them 'how to cheat' (S5, Year 10, Group3 , England). **This raises questions about the value of homework for learning, as opposed to learning how to answer homework questions on homework platforms with specific and narrow response models.**

Teacher surveillance

A separate concern was that teachers could see not only whether homework had been completed, but exactly how it had been completed: '[Teachers] can see how long you've spent on [homework] and what you've done over time', and 'how many attempts you've had on the question and if you've watched the video' (S4, Year 9, Group 1, England). Reading Plus gave teachers similar visibility into how long children spent reading assigned texts (S5, Year 9, Group 3, England). One child said they would rather be able to read something that 'isn't tracked the whole time' (S5, Year 9, Group 3, England). This form of ongoing monitoring was experienced, at least by this child, as intrusive of privacy regardless of how well or quickly they were doing the work.

Bookwork checks

Some automated features felt punitive to children including 'bookwork checks' that they found burdensome and that could extend homework considerably when repeatedly failed (S4, Year 9, Group 1, England). As one Maths lead teacher explained:

> So we give them a book in Year 7, their special homework book, because each question has a code, and then the building of Sparx is, you'll do a couple of questions, and they'll say, what was the answer to 3E? And then it will give you some options. And then if ... you'd done it properly, you'd go "3E. Oh, the answer was 7." But if you haven't written it down and you did it all in your head, you can't remember what 3E was, so you just make a guess. If it's wrong, you keep having book checks. So it takes longer. - S4, Interview, Maths lead teacher, England

Some children completed calculations mentally and got around the requirement to write out their workings by photographing their answers and using those photos to complete the 'bookwork checks' (S4, Year 9, Group 1, England).

The surveillance of time, number of attempts and other aspects of the children's digital homework activity seems to sit uneasily alongside a lack of meaningful teacher involvement in increasingly automated homework systems. This disconnect creates issues ranging from opportunities for cheating to technical difficulties with access, around which some children felt they received insufficient support. Overall, the children did not feel that these 'homework' systems adequately understood what it meant to actually do homework, particularly in ways that felt meaningful or helpful to them.

02.4

Conditions for homework

Devices used for homework

The children described using a range of devices to complete homework, with experiences varying according to school policies, year group, subject and the resources available at home. Some completed homework on desktop computers, laptops or tablets, while others relied on smartphones, particularly where other devices were unavailable. One Year 7 child explained: 'I use my phone to log in and then write on paper', before adding 'My laptop's snapped in half' (S2, Year 7, Group 1, England). Another group described using their smartphones because they were 'versatile' and because 'They don't give us anything else' (S2, Year 7, Group 1, England).

School-provided vs personal devices

Access to take-home devices varied across and sometimes within schools. For example, one primary school teacher explained that although Year 2 children 'all have their own one-to-one Chromebook device, ... they don't take them home... But from Year 3 to Year 6 they take them home' (P4, Interview, Curriculum lead, England). Some Year 7 children recalled being given computers to take home in primary school, but added that this was no longer the case once moving to secondary school (S2, Year 7, Group 1, England). However, another secondary school (S3) did provide take-home devices.

Withholding devices as a disciplinary measure

When the children had take-home devices, access to a school device could be withdrawn as a disciplinary measure, requiring them to complete homework on paper regardless of their circumstances at home. In one case, a principal teacher of Technologies in Scotland (S3) explained that a child's account was locked for six months after an attempt to bypass school monitoring software, during which time they worked on paper. Other primary school children described that Chromebooks could be confiscated if used for games rather than schoolwork, or if somebody did something 'super bad' (P4, Year 4, Group 1, England), in one case for the remainder of the school year, after which 'you have to do all your work and homework on paper' (P4, Year 4, Group 1, England). This suggests that, in some schools, continued digital access to homework functioned partly as a conditional privilege rather than a stable entitlement. It also suggests that, in those schools, being required to do homework on paper is seen as a punishment.

Unequal access

A deputy headteacher in a secondary school in England (S4) explained that decisions not to provide take-home laptops were themselves shaped by practical constraints rather than a lack of awareness of need: 'We have looked at whether to provide the laptops, but we can't find that the logistics would work because those students, again, they don't have that help at home'. This meant that children without access to a laptop or desktop at home had to do their homework on a smartphone, or during a dedicated library slot before or after normal school hours that could fill up, creating inequalities among possibilities for children in the school.

One teacher offered a sharper reframing, arguing that the terms 'home learning' and 'homework' wrongly assumed children had a suitable space to work, and proposing 'independent learning' instead, since many completed work in school before or after hours (S2, Interview, assistant headteacher and Geography teacher, England). The same respondent linked this to a wider concern that EdTech's rapid expansion since COVID-19 risked reinforcing inequalities between schools and households, such that 'the rich get richer'. Where schools did accommodate these gaps, this typically meant paper-based alternatives (S4, Interview, KS4 Science coordinator, England) or children completing homework outside school hours but not at home (S2, Interview, assistant headteacher and Geography teacher, England).

Some children also described sharing devices with other family members or borrowing devices to complete homework. For example, one child explained: 'I just do it on a tablet. I don't have a laptop. I can do it on my brother's laptop though' (P3, Year 5, Group 3, England), while another reported: 'I use my mum's phone' (P5, Year 5, England). A shared or borrowed device is not necessarily something a child can rely on being available at the moment they need it, and depends on another family member's schedule rather than their own. This points to a form of access that may look adequate on paper, in that a household 'has' a device, while remaining considerably less dependable in practice than the school-based alternatives described.

The children and teachers both raised concerns that homework was harder to complete on a phone than on a laptop or computer, with one teacher noting that mobile interfaces 'lose a lot of the features' available on desktop (S4, Interview, KS4 Science coordinator, England).

Additionally, one teacher, working in an area with high pupil premium and free school meal eligibility, described home visits where children had 'definitely no laptops', and noted that device ownership did not guarantee reliable internet, data or exclusive use (S2, Interview, assistant headteacher and Geography teacher, England). A teacher in Scotland similarly noted that a 'sizable number' of children lacked home internet, meaning homework was often saved locally on school Chromebooks and uploaded once back on school Wi-Fi (S3, Interview, principal teacher of Technologies, Scotland). A KS4 Science coordinator in England (S4) described a 'noticeable gap' linked to pupil premium status, warning that online-only homework risked excluding children without a printer or reliable device.

Risks to physical safety

EdTech's role in homework also raises questions that go beyond learning and access, touching on children's physical safety. An online safety advisor in England described how, in some parts of London, schools have had to stop letting children take devices home because of the risk of theft on the street, with them completing device-based homework in school instead.

This is a narrow but telling finding. It indicates that decisions about how homework is delivered cannot be separated from the environments children move through outside school, and that a policy that assumes every child can safely carry a laptop or tablet home may, in some areas, expose them to real risk. It also points to a further layer of inequality: children in areas where device theft is a concern may need to rely more heavily on completing work in school, adding to the access pressures already described elsewhere in this chapter.

Accessibility, SEN and inclusivity

For some children, completing homework digitally improved accessibility. One child explained that using a computer supported them because they were 'actually blind' (S2, Year 8, Group 3, England), while a dyslexic pupil described preferring digital text because it could be made 'bigger and bolder' and 'magnified' (S3, Senior 4-6, Group 2, Scotland).

The children noted that certain features, such as translation, text-to-speech, image recognition, optical character recognition[61] and voice-to-text tools, made technology easier to use and, in some cases, more accessible:

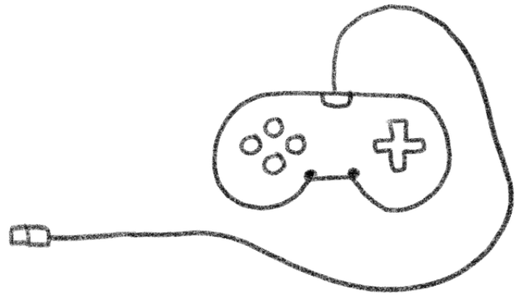
> AI is useful ... when you're in a rush and you don't want to type something, you could say it out loud and then it would type it for you. - P4, Year 4, Group 2, England

Platform design varied in its inclusiveness. One teacher described a platform with read-aloud functionality and adjustable time limits (S3, Interview, head of Science, Scotland). Others were less adaptable: a dyslexic child described Sparx Maths homework taking 'two hours' due to reading difficulty (S4, Year 9, Group 1, England), and a deputy headteacher confirmed timed tasks could not be personalised (S4, Interview, deputy headteacher, England).

Conclusion

Overall, the findings reveal that homework was completed across a range of digital and non-digital formats. Rather than a single EdTech model of homework spreading uniformly across the curriculum, schools and subjects appear to be making distinct, largely uncoordinated decisions about where digital tools belong and where they do not. Access to devices was shaped by school policies, household resources and attitudes, and the availability of school-based alternatives. The research indicates that, while schools often put measures in place to support children without suitable devices at home, access to homework via educational technologies was not experienced in the same way by all. Inclusion often depended not only on the availability of digital tools, but on whether children could realistically access the conditions needed to use them. Rather than removing barriers, digital homework sometimes redistributed them, shaping how and when children completed work, and placing additional demands on their time.

03



Gamification and design features

Key takeaways

One

Reward systems can distort what successful learning means:
Children described getting answers right but still feeling they had ‘lost’ because points were taken away or leaderboards rewarded speed. These systems can create a competing definition of success, making it harder to see whether children are actually learning or simply learning how to succeed within the platform.

Two

Automated judgement is not neutral:
Timers, leaderboards and behaviour systems may apply the same rules consistently, but consistency is not the same as fairness. Children and teachers described systems disadvantaging some children, recording unexplained demerits and repeatedly rewarding or penalising the same children. Standardised rules can make individual circumstances less visible rather than better understood.

Three

EdTech can import the wrong design logic from social media:
A child receiving homework notifications at midnight shows how consumer technology features can enter education without the same scrutiny of whether they serve children’s learning or wellbeing. EdTech should adapt to children’s needs, rather than asking children to adapt to the logic of the platform.

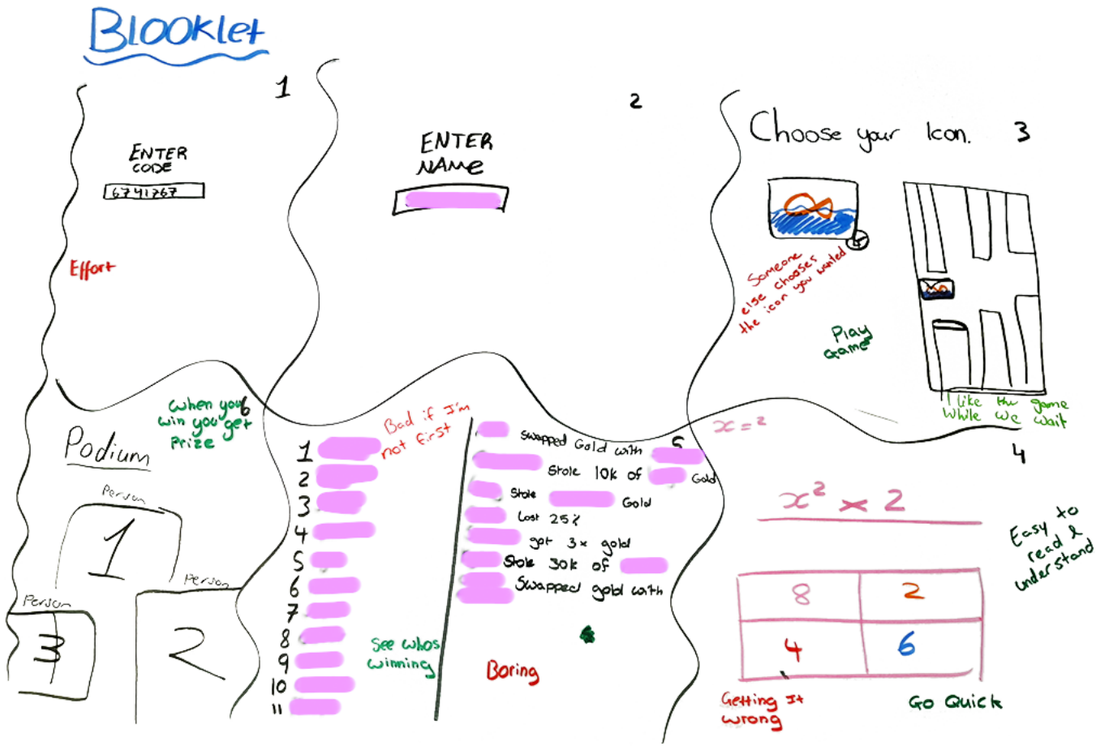


FIGURE 5
Year 10 pupils' drawing of Blooket during a workshop activity

Introduction

As educational technologies have evolved, they have increasingly incorporated design features intended to make learning more engaging, interactive and personalised. Alongside game-inspired elements such as rewards, points, badges and leaderboards, many services and apps now include wider engagement and behavioural features including notifications, messaging and behaviour tracking. These functionalities have become commonplace across the digital products children use, both in and outside school, shaping not only how they learn, but also how they interact with educational environments more broadly.[62]

These features are not unique to EdTech but form part of a broader set of digital design practices that seek to influence user behaviour, sustain attention and encourage ongoing engagement. As previous research by 5Rights Foundation has shown,[63] many contemporary digital services rely on design features that encourage repeated engagement, prompt particular behaviours and make participation more habitual. Educational technologies increasingly draw on these same design approaches, applying them in the context of learning and classroom participation.

Nonetheless, while gamification can promote interest in and enjoyment of an activity, it has been critiqued for seeming to fail in the education context,[64] where the excessive use of rewards or extrinsic motivators hinders intrinsic motivation,[65] with Nicholson[66] arguing that rewards can be damaging for long-term change. Others have critiqued gamification for promoting hierarchy and comparison and for being used as a form of 'governmentality'.[67] Some scholars suggest that the term 'gamification' is misleading and should be replaced with one that is more closely aligned with, and better reflects, what is actually happening, such as 'exploitationware'[68] or 'pointsification'.[69]

Our workshops found that these features have become a routine part of the children's educational experiences – they described encountering many of these features in their classroom environments. While most valued these features for making learning more engaging, organised and enjoyable, several also questioned whether they encouraged meaningful learning or instead promoted competition, distraction, compliance or continuous behavioural evaluation. Drawing on the perspectives of both children and teachers, this chapter explores how gamified, engagement and behavioural features shape children's experiences of education.

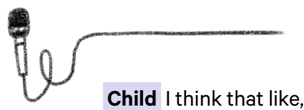
They definitely try to make Sparx have that video game vibe, because they have levelling up, and XP, and they have leaderboards.

S4, YEAR 9, GROUP 4, ENGLAND

03.1

Gamification in EdTech

As gamified features have become increasingly embedded within a wide range of educational applications, the boundaries between 'learning tools' and 'games' have become less distinct.[70] The children highlighted that they used gamified apps for things such as learning their times tables, using Times Tables Rock Stars (sometimes referred to as 'TT Rock Stars' or 'TTRS'). One child mentioned that 'game modes' might make learning more fun:



Child I think that like, so when you do TT Rock Stars, it has loads of game modes. And it might make it more fun to actually learn your Times Tables Rock Stars. Because we do repeat it, but it's in the game mode, so it's more entertaining.

Researcher And what kind of, do you think makes it a game?

Child They have multiplayers.

Child You can challenge each other.

Child You can have, like, a timer.

Child You also have a heat map on there and you can, like, you want to change your heat map green. So that means that all of your timetables are under one second or one second.

- P3, Year 5, Group 1, England

Gamification was widely described by both the teachers and children as increasing engagement with learning by making activities more interactive and enjoyable. Teachers explained that interactive EdTech generate 'that extra bit of interest, that extra bit of engagement' (S2, Interview, Computer Science teacher, England), while others emphasised making learning 'as fun as possible' (P5, Interview, Computing/phase lead, class teacher and English lead, England) to encourage participation.

The children often understood and described gamified EdTech as 'games' rather than as separate educational software. In classroom settings, they referred to Chromebook-based activities as 'playing inside', and grouped tools such as Times Tables Rock Stars, Solver and TypingClub within a broader set of 'games' available during school time (P4, Year 3, Group 1, England). Several children explained that platforms such as Blooket allowed them to 'learn by playing the game' (S4, Year 9, Group 3, England). This suggests that platforms with gamified features are often absorbed into children's existing language of digital play, even when they are designed for curriculum-related activity.

Further accounts point to how these tools are positioned within everyday classroom practice. One child described using Chromebooks to 'type up things' and accessing a range of approved activities that could be 'played' and that are 'school-related'. Times Tables Rock Stars was highlighted as an example, with the child noting its focus on times tables practice and the ability to select different tables before beginning, illustrating how curriculum-aligned content is delivered through interfaces that closely resemble gameplay, reinforcing the association between learning activity and play (P4, Year 4, Group 2, England).

These examples suggest that gamified EdTech apps are not only shaping how children engage with learning tasks, but also how they categorise and talk about them, with educational platforms frequently situated within their broader understanding of 'games' in the classroom context.

03.2

Gamification features

Across discussions with children of all age groups, a wide range of recurring gamification features emerged. These included progression mechanics such as levelling up, streaks, XP, crests, gold, ClassDojo points, coins and other reward systems; personalisation features such as avatars, skins and customisable or randomly generated usernames; and social features including messaging, leaderboards and competitive mechanics such as stealing and swapping. The children also referred to platform-specific features such as emoji spinners and notifications, which contributed to their engagement and participation in the services.

The prevalence of these features across different applications suggests that gamification is not confined to any single subject area or platform. Rather, a shared set of mechanics appears across a range of educational technologies, providing common structures through which achievement, progression, competition, identity and social interaction are experienced by children. The following sections explore these features in more detail and examine how they shape children's engagement with EdTech, and subsequently, how this may change children's relationship with learning itself.

Avatars and skins

The children described several platforms, including Times Tables Rock Stars, ClassDojo, Blooket and Scratch, as offering avatar or profile customisation. Their views on avatars were mixed. For some, avatar customisation was seen as a feature that enhanced enjoyment and engagement with learning activities. Discussing Times Tables Rock Stars, one child explained that players could earn in-game currency through gameplay and use it to customise their avatar. When asked whether this helped them learn their times tables, the child responded that it 'makes it fun' (P2, Year 6, Group 1, England). This could suggest that, for some children, avatars contribute indirectly to learning by making participation in educational activities more enjoyable.

However, there was questioning around the necessity of avatars. While acknowledging that customisation features were enjoyable, one child described avatars as an optional rather than essential component of the experience, noting that 'it's fun to customise them' and that 'they are cool', but adding that 'if they wasn't there, it would be fine' (P2, Year 6, Group 2, England). Although avatar-based personalisation may increase engagement or time spent, children do not necessarily view it as central to the value of the learning platform.

Avatars were generally perceived as an enhancement to the user experience rather than a core learning feature. Their value appeared to lie primarily in increasing enjoyment and providing opportunities for personal expression, with children differing in the extent to which they considered these features important to their overall engagement with educational activities.

Emoji spinner and name generator

Beyond avatars, the children also discussed a range of profile and identity-related features that enabled varying degrees of personalisation. In Seneca, a revision programme for GCSE and A-Level exams, but also used by younger children, several participants enjoying the platform's 'emoji spinner', a reward-based feature that appears 'when you like level up' through which users could unlock different emojis and profile items (S4, Year 9, Group 1, England).

Overall, the children appeared to like or even love the emoji spinner feature, particularly enjoying the interactive element, where 'you can spin it and even the spinning makes a nice sound [like] ASMR' (S4, Year 9, Group 4, England). The key enjoyment factor for these children seemed to be the interactive nature of the feature. The children expressed this when comparing Sparx, where the emoji spinner 'just like appears' to Seneca, which they described as 'really interactive' (S4, Year 9, Group 4, England).

Games

The children also discussed the inclusion of game-based activities within educational platforms, particularly where these were linked to practice outside the classroom. One child described using Big Maths both in school and through a companion platform, Big Maths at Home, which allows children to practise mathematical skills independently. Alongside activities designed to help children 'move up a click', the child highlighted a rocket-themed game in which players answered mathematical equations by selecting the correct rocket from a series of moving options (P1, Year5, Group2, Wales).

When asked whether this was a fun feature, the child responded positively, describing the game as an enjoyable aspect of the platform. Notably, the children distinguished between the core learning activities undertaken in school and the game elements available through the home-based version of the platform. As one child explained, 'The games are only on the maths at home' (P1, Year5, Group2, Wales). The fact that these game features were described as available only through the home version of the platform may indicate that gamified activities are being used to encourage continued participation, engagement and practice outside formal classroom settings.

Points, XP, crests, gold, stars, coins, money, awards and rewards

Leaderboards, which are discussed later in the chapter, were typically underpinned by a range of reward currencies, including points, XP, crests, gold, ClassDojo points, stars, coins, money, awards and rewards. These currencies functioned as the mechanism through which performance was quantified and often translated into leaderboard positions. As a result, points were meaningful not only as rewards in themselves but because they shaped children's ranking relative to others.

The social significance of points was also recognised by the teachers. When discussing ClassDojo, one child explained that although points could be displayed to the class, 'our teacher prefers to not show it then you don't get jealous' (P2, Year 6, Group 2, England).[71] Despite such efforts to reduce comparison, the children remained aware of both their own and others' point totals. For example, one child recalled becoming the 'ClassDojo winner' with 89 ClassDojo points, while another child had accumulated 190 ClassDojo points (P2, Year 3, Group 2, England), illustrating their role, even for very young children, in establishing relative position within peer groups.

The children's accounts consistently highlighted enjoyment in earning points and rewards. One child explained, 'I really like earning points and seeing how well I can do' (P2, Year 6, Group 1, England). In Kahoot!, points were linked to winning, with one child noting that accumulating points was enjoyable because 'it's how we win' (P2, Year 3, Group 2, England). The children also compared large accumulations of coins in Times Tables Rock Stars, treating them as markers of accomplishment.

Several children described educational games as rewarding in themselves. Reflecting on Languagenut, they explained that learning happened through play, but gameplay also functioned as a reward. As one child put it, 'you kind of learned while playing the game', while another added, 'it's also a reward because you're playing a game' (S4, Year 9, Group 3, England). Points, gold and other rewards therefore formed systems where learning tasks were integrated with game mechanics. The extent to which these integrated systems actually supported learning, however, is arguable.

At the same time, the children recognised that points were not always based solely on correctness. In Blooket, for example, players could answer all questions correctly and still lose their position because competitors could steal gold or benefit from other mechanics (S6, Year 10, Group 2, Northern Ireland). While some accepted this unpredictability as part of the appeal, others questioned its fairness, observing that 'even if you get them all right, you can still be at the bottom of the leaderboard' (S6, Year 10, Group 2, Northern Ireland). These comments highlight how reward systems blended academic performance with game-based competition.

Although the children generally enjoyed accumulating points and rewards, they were less positive about losing them. One younger child explained that they disliked Times Tables Rock Stars because difficult questions meant they would 'lose points' and 'lose money' (P2, Year 3, Group 2, England). Others described the possibility of teachers removing ClassDojo points as 'quite nerve-wracking' because points earned through good behaviour could be taken away (P2, Year 6, Group 2, England).

Points and reward currencies therefore played an important role in the children's experiences of gamified learning. They recognised achievement and shaped progression, but also extended beyond academic performance into behaviour and classroom conduct, including 'generally being kind' (P2, Year 6, Group 2, England). In doing so, these systems linked learning, behaviour and social comparison through a shared reward structure.

These features raise questions about the kinds of engagement gamification produces, and whether children's participation is driven primarily by interest in learning or by external rewards and recognition.

Levelling up

‘Levelling up’ emerged repeatedly as a feature through which the children connected educational platforms and concurrent achievement metrics to video games. Discussing Sparx, one child remarked that ‘They definitely try to make Sparx have that video game vibe, because they have levelling up, and XP, and they have leaderboards’ (S4, Year 9, Group 4, England), suggesting that the children were aware of the ways in which educational platforms adopted familiar gaming mechanics and aesthetics, incorporating systems of progression and achievement commonly associated with digital games.

One teacher described levelling systems as being linked to rewards and recognition for achievement, although they also admitted that they had never fully explored the process through which the children accumulated XP points (S4, Interview, Maths lead teacher, England). Nevertheless, they explained how the platform provided detailed information about individual student activity, with XP being gained or lost according to factors such as the number of attempts made at a question or whether explanatory videos had been watched or skipped.

Through these systems, learning behaviours were translated into quantifiable measures of progress that could then be rewarded through progression mechanics. The teacher described being able to view a rewards page displaying children who had ‘levelled up’, alongside information about the activities that had contributed to this progression: ‘This person has bounced back because they’ve done more homework this week and these people handed it in early’ (S4, Interview, Maths lead teacher, England). In this sense, gamified levelling systems functioned not only as visible markers of progress for the children but also as a means through which teachers could monitor their progress under the platform’s perimeters. This is not to say, however, that these platforms necessarily enabled teachers to track **learning** other than through what the services themselves defined what was learning and what was not.

Stealing or swapping coins

Some gamified platforms incorporated competitive mechanics that allowed players to directly affect one another’s progress. In Blooket, the children described game modes in which participants could steal or swap coins, gold or other resources accumulated by other players. For some, these features were viewed positively because they increased the excitement and unpredictability of gameplay. Discussing the ability to take points from other players, one child stated that ‘it’s fun’ and explained that it helped learning because ‘it makes it exciting’ (S6, Year 11, Group 1, Northern Ireland). In this account, competitive mechanics were seen as contributing to engagement with the activity rather than detracting from it.

However, not all experiences were positive. The children recognised that these features could be frustrating for those who lost resources, with one observing that people who ‘get swapped with’ may be less enthusiastic about the mechanic (S6, Year 11, Group 1, Northern Ireland). This points to the different ways in which children experienced the same feature, with enjoyment often dependent on whether they benefited from or were disadvantaged by the outcome.

More critically, some children reported that Blooket had been restricted or banned within their schools. They attributed this to a range of issues, including inappropriate usernames and highly competitive behaviour during gameplay (S4, Year 9, Group 2, England; S6, Year 10, Group2 , Northern Ireland). One English school said Blooket was banned because a child was found crying in the library after losing a game (S4, Year 9, Group 1, England). Several children explained that mechanics involving the theft of coins or gold could contribute to tensions between players. As one child noted, ‘some people can get over-competitive and hurt the other person … in the classroom’ (S4, Year 9, Group 2, England).

The emotional responses associated with these mechanics were also evident in discussions about losing in-game resources. When asked how they would react to discovering that another player had taken a proportion of their gold, one child replied: ‘I need to get it back’ (S6, Year 10, Group 2, Northern Ireland). When prompted further, the same child jokingly responded, ‘I want to kill them’, illustrating the intensity of feeling that these competitive interactions could provoke. While the comment was made in a light-hearted context, it nevertheless reflects the strong emotional investment that game-based reward systems can generate. It also brings up the question of whether this helps or detracts from learning.

Unlike many of the other gamified features discussed in this chapter, mechanics such as stealing and swapping introduce direct competition between players rather than rewarding individual achievement alone. One participant’s gain is often dependent on another’s loss, creating a different dynamic from systems based on points, levels or rewards. While some children found this increased the excitement of the activity, others described consequences ranging from frustration to conflict within classroom settings.

Streaks

One of the clearest examples of the distinction between engagement and learning emerged in discussions of streaks. Across a number of platforms, the children described streaks as rewarding consistent participation, often by tracking consecutive correct answers or daily activity. In Blooket, for example, they explained that a streak represented getting 'three right answers in a row' (S6, Year 11, Group 1, Northern Ireland). In this context, streaks acted as a visible indicator of performance during gameplay, rewarding consistency and encouraging continued participation.

Despite this sustained engagement, the children questioned the relationship between maintaining a streak and achieving learning outcomes. When asked whether long-term use of Duolingo had made them 'all brilliant German speakers', several responded negatively. One child remarked, 'I don't learn that way', while another explained that they would complete 'one match word a day at, like, 10 o'clock, and then I go to sleep' (S4, Year 9, Group 1, England).

These responses indicated that, much like other gamification features discussed in this chapter, maintaining a streak could become a goal in itself, separate from broader learning objectives. While streaks appeared effective in encouraging regular engagement with a platform, the children did not necessarily associate them with meaningful learning or improved subject knowledge.

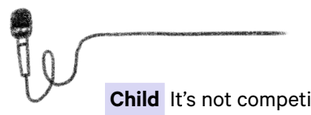
Leaderboards

Leaderboards were a prominent and widely embedded gamification feature across educational technologies used in schools, including platforms such as Kahoot!, Blooket, Languagenut, Seneca, Sparx, Times Tables Rock Stars, Dr Frost Maths and ClassDojo. Across these systems, leaderboards structured how learners' performance was made visible, compared and interpreted, often turning routine classroom tasks into publicly observable competitive or quasi-competitive events.

In some classroom contexts, leaderboards were displayed collectively on shared screens such as interactive whiteboards, creating a synchronous, whole-class view of performance. One younger child described how the children would complete tasks on individual devices and then see their results 'on the big screen where it shows all of our answers' (P2, Year 3, Group 2, England). This arrangement positioned performance as a shared classroom experience, where individual responses immediately contributed to a visible hierarchy of achievement.

A key variation across platforms concerned the scale of comparison. Some systems restricted leaderboards to the classroom level, while others extended them to school-wide or global rankings. Seneca, for example, provided class-based leaderboards where the children could see others in their group, although anonymised usernames prevented direct identification (S4, Year 9, Group 4, England). In contrast, Languagenut and similar platforms enabled far broader comparisons, including year group, school, national and global rankings. The children described being positioned against 'students around the world' (S4, Year 9, Group 2, England), sometimes within populations of tens of thousands of users, which significantly expanded the competitive frame beyond the immediate classroom. However, even within these expansive systems, visibility of individual identities was often restricted, with the children noting that they could see scores but not directly access others' detailed results.

Despite this wide visibility, some characterised these experiences as 'friendly competition', suggesting that the presence of ranking did not necessarily translate into hostile or high-pressure dynamics:



Child It's not competitive, it's friendly.
Child Friendly competition.
Researcher Okay, friendly competition.
Child But it's not really a competition, it's just... You're basically just showing how much points we have.
- P1, Year 6, Group 2, Wales

Another child explained:

> Nobody's really mean about it. It's just we congratulate the people who have points, but I can't remember anyone ever saying, "Oh, I have more points than you." - P1, Year 6, Group 3, Wales

However, while some described leaderboards as encouraging them to 'try your best' and 'keep you motivated' (P4, Year 3, Group 3, England; S4, Year 9, Group 4, England), others associated rankings with being 'clever' or less capable and described feeling 'disappointed', 'hopeless' or 'not smart' when placed lower (P2, Year 3, Group 2, England).

The children's accounts in both primary and secondary environments highlighted how visible comparison could also influence peer relationships. They described classmates boasting that they were 'ahead' or 'better', while others linked leaderboards to teasing, mocking and bullying due to leaderboard positioning (P4, Year 4, Group 3, England; P2, Year 6, Group 1, England). Some described competition becoming socially directed, including targeting particular classmates or collectively attempting to beat stronger players (S4, Year 9, Group 1, England; S6, Year 10, Group 2, Northern Ireland). Others anticipated feeling 'disappointed' when competing against older children who were expected to perform better because of differences in age or speed (P3, Year 2, Group 1, England).

At the same time, the children demonstrated that these risks are not inherent to gamification itself but reflect the design of competitive systems. The online safety advisor for schools in England argued that 'the competition element that just rewards the fastest is really poor design', likening Times Tables Rock Stars to 'sports day', where only a few children succeed while the rest 'feel rubbish about themselves'. By contrast, they pointed to platforms such as Magma Maths and DoodleMaths as offering visual, interactive approaches better suited to diverse learners. They described alternative approaches in which competition occurred anonymously or without direct comparison between classmates, creating 'a very safe space' because 'you're not against your peers'. Similarly, the children valued platforms where only teachers could view scores, reducing opportunities for comparison or peer ridicule (P1, Year 6, Group 3, Wales). The same practitioner also cautioned that high-quality educational games could be particularly valuable for children facing additional barriers to learning because they provided an enjoyable and motivating experience.

Engaging vs learning

The children and teachers consistently distinguished engagement from meaningful learning. They highlighted that the mechanisms underpinning gamification (points, rewards, avatar customisation and leaderboards) sometimes shifted motivation away from learning towards external incentives across all age groups. The children described earning points for prizes such as 'hot chocolate' (P2, Year 6, Group 2, England), unlocking new avatar features (P2, Year 3, Group 1, England) or competing to move up leaderboards. One child explained that they worked 'as much as I could just so I was above her on the leaderboard' and acknowledged that they were no longer focused on learning (S5, Year 10, Group 3, England; P2, Year 6, Group 1, England; P4, Year3 , Group 1, England). These findings demonstrate that participation can be sustained even where learning becomes secondary, highlighting that engagement alone is not sufficient to realise the right to education.

The teachers expressed similar concerns. While recognising the motivational benefits of gamification, they emphasised that educational technologies should 'work for the learner and for the learning' and that 'it's not about a bonus game or fun. It's learning first' (S3, Interview, principal teacher of Technologies and head of Science, Scotland). Likewise, one headteacher stressed that meaningful learning depends on teaching 'with children' rather than relying on digital platforms alone (P1, Interview, headteacher, Wales). These accounts reinforce the distinction between technologies that encourage participation and those that genuinely support educational outcomes.

It is also important to consider the parameters through which EdTech services measure achievement and progress. There is a foreseeable risk that children come to understand achievement according to the metrics embedded within a platform, such as the accumulation of points, badges or progression through levels. This illustrates how children may be encouraged to optimise their behaviour to satisfy platform-defined indicators of success rather than educational goals grounded in teacher judgement or pedagogical principles.

Practitioners also questioned whether competitive systems account for differences in learners' needs and circumstances, arguing that they can repeatedly advantage the same children while disadvantaging others. Reflecting on Times Tables Rock Stars, the online safety advisor in England asked: 'How can you have a class of peers playing against each other where it's always the same two children who are going to win? How does that make the children who've got inclusive needs feel?' Rather than simply reflecting attainment and keeping children engaged, competitive systems may reinforce existing differences between learners and shape who is able to participate on equitable terms.

Overall, the findings suggest that children's experiences of gamification depend less on the presence of game mechanics than on how those mechanics are designed and implemented. While gamification can strengthen participation and motivation, it is most supportive of children's rights where game mechanics remain aligned with pedagogical objectives, support meaningful learning and avoid reinforcing exclusion or social comparison.

03.2

Design features influencing user engagement

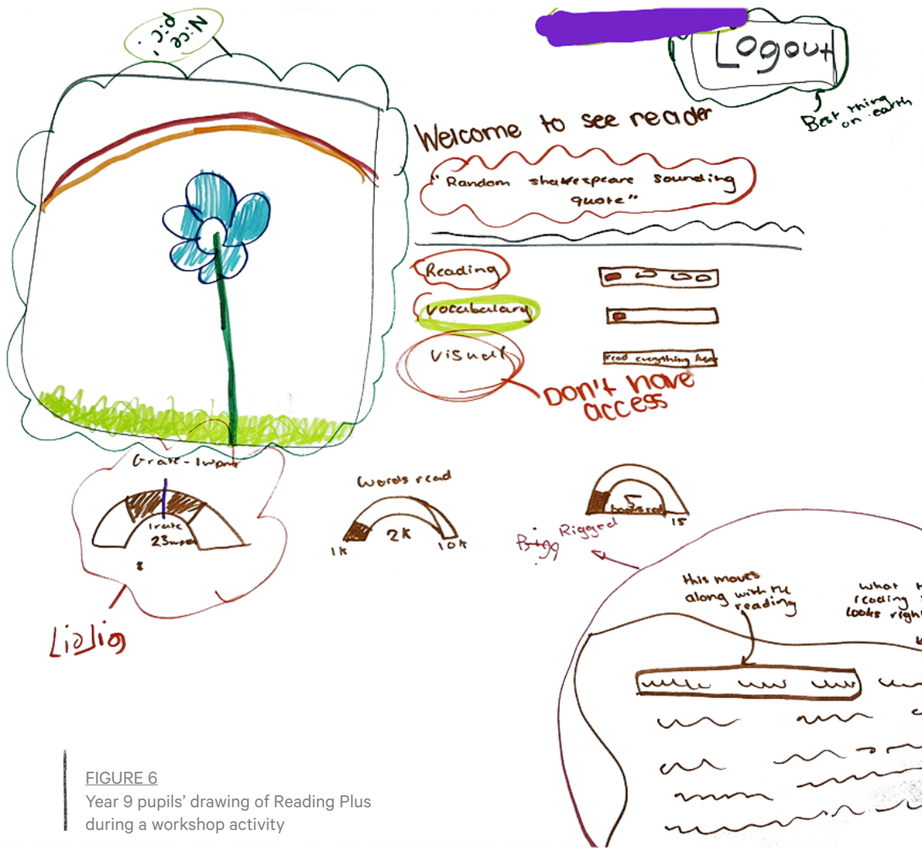


FIGURE 6
Year 9 pupils' drawing of Reading Plus during a workshop activity

Other features were identified by the children and teachers participating in this research as common components of many EdTech products. These include timers, messaging, notifications and behavioural tracking, which support communication between users, prompt interaction with the platform and collect information about users' activity and progress. The teachers and children described these functionalities as being used to support learning, communication and classroom management, and they formed an important area of discussion when considering how digital technologies influence children's experiences in educational settings.

Some platforms such as Class Charts integrated timetables, homework, attendance, school communications and behavioural records within a single interface. The children frequently described them as bringing together 'everything in one place' (S2, Year 7, Group 3, England), including 'all the stuff I need for school' (S2, Year 7, Group 1, England).

Timers and speed

Timers and countdowns featured in several homework apps used for both reading and maths, shaping not just how long children had to complete a task, but how they experienced doing it. Timers were controversial, but were not universally unwelcome: one child described enjoying a live times table race against classmates and felt the challenge of beating the clock genuinely helped them learn (P1, Year 6, Group 1, Wales).

Several children reported that timers simply did not track their work accurately, stopping when a tab lost focus, the mouse stopped moving or a different app was open in the background, in one case registering 17 minutes of work on an hour-and-a half of actual effort (S4, Year 9, Group 4, England; see also S5, Year 10, Group 3, England; S4, Year 9, Group 1, England). Where timers did work, the children often found them stressful rather than motivating: one described a visible countdown that turned 'more and more red the longer you do it' (S5, Year 10, Group 3, England), and others described being given as little as 70 seconds per question when doing their homework, which caused visible distress (P1, Year 6, Group 3, Wales).

In Times Tables Rock Stars, some children explained that they normally played games that ran against a one-minute countdown, although they could set a longer limit, up to three minutes, in a mode called Garage:

> When we're doing Times Tables Rock Stars, if we want to do like, it's normally one minute. But if you go to Garage, you can set how much time you want to three minutes... But you can't go past three minutes. - P3, Year 5, Group 3, England

The children generally felt pressured to beat the countdown, and several felt this led to mistakes they could have avoided with more time (P3, Year 5, Group 3, England; S5, Year 9, Group 3, England). On Times Tables Rock Stars, some were marked down for answering too quickly even when correct (P4, Year 3, Group 2, England), and being rushed was linked to wrong answers, frustration, and, in a few cases, to children describing the experience in terms of feeling 'crazy' or unable to get anything right (P3, Year 2, Group 1, Year 5, Group 3, England).

On Sparx Maths, the children reported being effectively penalised for finishing too quickly or too slowly, since the platform expected homework to take close to an hour regardless of how long a child actually needed (S4, Year 9, Group 4, England), with one noting that completing homework in the 'correct' time was itself the only way to achieve a top homework grade (S4, Year 9, Group 1, England).

Reading Plus tracked reading speed directly, recording a pupil's 'G-rate' (guided reading speed) and 'I-rate' (unguided reading speed). One child noted that for them, this measure 'never works', returning only a question mark instead of actual values: 'For me, it's always like question marks' (S5, Year 9, Group 3, England). One teacher argued that the purpose of reading homework should be to instil 'the love of reading' rather than reducing it to a test of quiz answers (P2, Interview, Year 6 teacher and head of Digital Strategy, England).

The children using Reading Plus described being paused if they read too slowly, and warned or forced to re-read if they read too fast, regardless of their actual reading ability (S5, Year 9, Group 1, England), and several admitted to choosing the shortest available books simply to finish within the allotted time rather than reading what interested them (S5, Year 9, Group 3, England). They described the platform as something 'every single lesson you hear complaining about' (S5, Year 9, Group 3, England), and said they preferred books because reading could proceed 'at your own speed' and be re-read, unlike on the app.

Some apps also tracked total time spent on homework in a way that could not be paused, including for a bathroom break (S4, Year 9, Group 4, England), and could not easily be adjusted for individual needs, which one teacher said caused particular stress for children with special educational needs:

> **Teacher** No, it's really hard because you interviewed somebody that finds maths really hard. I know this because her mum is an assistant headteacher, so we talk about her. But I know she finds it really hard, and she spends hours on her Sparx homework, much longer than she should. And she will often have a question up for a very long period of time, while she's trying to work it out on paper.
> **Researcher** And then that might be stressful to have that, ticking.
> **Teacher** Oh, very stressful, it times out. and what you're talking about, that Sparx will not be recognising that she's actually spent that time on it. But in actual fact, for [student name] she was.
> **Researcher** Can you set it to say, this is a dyslexic child, or this is a child with special... You can't, you can't...
> **Researcher** The teacher cannot make any adjustments based on the student's individual needs?
> **Teacher** I do not think so.
> **Researcher** Is it assumed that the program will do so automatically? That it can...
> **Teacher** Well, it most definitely can't, can it? How is it supposed to know? Unless you type in all the demographics.
> - S4, Interview, deputy headteacher, England

Socialising and messaging

There were various ways in which the children could communicate using these services in school. For example, in ClassDojo, a service that describes itself as 'connecting K-12 teachers with families' and providing 'free classroom communication, behaviour tracking, and student portfolios', the children explained that they could socialise and send preset messages to other children in their class on 'Dojo Island'.[72]

Communication within this space was structured rather than open-ended. The children reported that they could only select from a limited set of preset messages such as 'hi', 'hello', 'welcome' and 'how are you doing?', with no option to write free text. This restriction was seen as a way of preventing inappropriate communication, with one child noting that 'the words are appropriate, not inappropriate' (P2, Year 6, Group 1, England).



Researcher Okay, they give you words that you can use.
Child So otherwise you can't post negative comments.
- P2, Year 6, Group 1, England

As a result, social interaction was enabled, but within clearly defined boundaries that shape how children can communicate with peers.

The children also indicated that Dojo Island could be used outside of school time, for chatting but also for multiplayer games such as 'Monster Tag', which requires at least two participants, suggesting that social features are embedded within a controlled, gamified environment where communication and play are structured through platform-designed constraints rather than open interaction.

Notifications and reminders

The children described notifications and reminders from school-related apps as a routine part of their digital learning experience, with mixed views on their usefulness. In some cases, notifications were seen as helpful for keeping track of homework and deadlines that might otherwise be forgotten, particularly when work was spread across multiple subjects and platforms. As one child explained, reminders were important because 'if it's not on there, then you're probably not going to remember to do that' (S4, Year 9, Group 4, England). Similarly, another child described Google Classroom notifications as useful because it 'actually informs you on stuff' (S6, Year 11, Group 2, Northern Ireland).

Alongside this, the children also described notifications as annoying, frequent or repetitive. Some reported receiving multiple alerts about new or outstanding work, even when there were no meaningful changes, while others described being reminded of tasks they had already completed. In some cases, these notifications were experienced as disruptive, particularly when they arrived late in the evening or repeated prompts to complete assigned work:

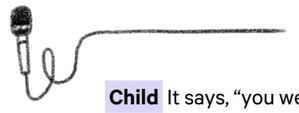


> Once I got one of those and I don't know what it was in but it was like a notification that pinged in my phone and it was at 12 because like... It comes up every, like, five minutes, five minutes after it's supposed to be done: "You have not got this finished. Please hand it in." And then you get a notification and it can wake you up at the wrong time. - S6, Year 10, Group 1, Northern Ireland



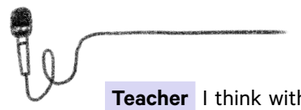
Parents and caregivers were also included in these notification systems, receiving regular updates about homework, behaviour and performance indicators such as completion status or achievement-related points. The children described how these alerts could lead to parents prompting them directly to complete work, linking school-based digital tracking with home routines (S4, Year 9, Group 3, England).

Some children also raised concerns about the level of detail shared through these systems, including notifications related to behaviour during school time such as toilet breaks or movement around the school (S4, Year 9, Group 1, England). While these features were sometimes understood as part of monitoring engagement and activity, the children questioned their necessity, and expressed discomfort with the sense of being constantly tracked or recorded:



Child It says, "you went to the toilet during this..." And then it tells you if you went to see Reception as well, if you were, like, feeling ill, which is quite weird because they don't need to know your every single, every move.
Researcher So do you feel this is like treating you like you're little children?
Child [Multiple] yeah.
Child Yeah, like being recorded all the time.
- S4, Year 9, Group 1, England

One teacher described GO 4 Schools as a useful way to keep parents informed while recognising that frequent alerts could quickly become overwhelming:



Teacher I think with GO 4 Schools, you can have it as an app on your phone, which I think is a really kind of useful way that you just get a notification, that little Jimmy's got some crest points and has done really well – or little Jimmy...
Researcher Or didn't do his homework.
Teacher Exactly that.
Teacher Ah, yes. And I mean I did warn my parents in my new form that you might want to turn off the notifications because you will get a lot of them.
Researcher Can they bunch them, like, end of the day?
Teacher I assume so, yes.
Researcher Or end of the week?

Teacher If you turn off those push notifications; otherwise, yeah, it would just be bing, bing, bing, bing, bing, alright, enough.

- S4, Interview, KS4 Science coordinator, England

Notifications therefore appeared to serve multiple functions within these platforms, acting simultaneously as reminders, progress updates, reward signals and mechanisms for communicating information between schools, children and parents and caregivers. At the same time, both the teachers and the children highlighted the potential for these systems to become excessive, particularly when notifications were frequent, repetitive or perceived as intrusive.

Behaviour tracking and its presentation to children

Several applications were reported as being used to monitor and record children's behaviour, often alongside other functions such as homework management, attendance monitoring and communication with parents and caregivers. These included ClassDojo, Class Charts, EduLink and GO 4 Schools.

Although some systems served multiple administrative functions, behaviour tracking emerged as particularly prominent in the children's experiences. Positive behaviour was variously recorded as 'merits', 'rewards', 'awards' or 'achievement points', while negative behaviour was tracked through 'demerits', 'consequences' or other forms of negative points.

While the display of positive and negative points may affect how children understand and respond to behavioural evaluations, a notable feature across platforms was the extent to which viewing behaviour data was individualised.

The children repeatedly emphasised that they could only access their own records, with comparative information either unavailable or restricted to staff. As one child noted, 'No, you can only see yours' (S2, Year 7, Group 1, England), while another from a different school suggested that although comparison existed within the system, 'The teachers can see compared to other students, just not us' (S5, Year 9, Group 2, England). Behaviour tracking displays therefore functioned primarily as personalised monitoring rather than peer ranking from the learner perspective, even where comparative infrastructures existed behind the interface.

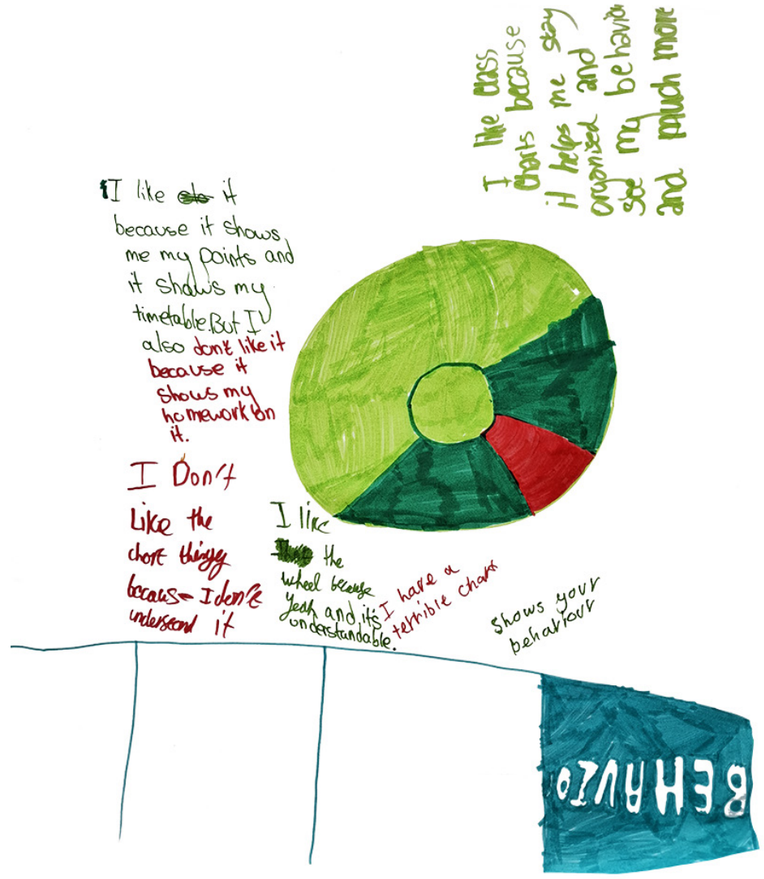


FIGURE 7
Year 7 pupils' drawing of Class Charts during a workshop activity

The children also described engaging with these systems routinely as part of everyday school life. Many reported checking platforms daily, often through mobile phones, to access timetables, homework and school announcements. One child described checking every morning before school 'over breakfast' because they couldn't check on their phone during school time (S4, Year 9, Group 3, England). Behaviour data was therefore encountered not as a standalone disciplinary tool but as part of broader educational infrastructure. In some cases, behaviour indicators were positioned prominently within children's interfaces and appeared immediately on log-in, meaning that records of conduct formed part of children's regular interactions with school information systems.

A key tension emerged around how behaviour was recorded and understood. On the one hand, some children described using behaviour feedback to adjust their conduct, suggesting that points could be read as guidance for improvement. On the other, they frequently reported that entries did not clearly explain what they had done to receive them, particularly where behaviour was selected from dropdown categories (S2, Year 8, Group 2, England). This created a gap between the visibility of a point and its meaning, limiting how far children could use the system to understand or change behaviour in practice.

The children's accounts suggest that behaviour tracking systems can shape emotional responses in different and sometimes uneven ways, depending on how feedback is presented and interpreted within school platforms.

Some children described behaviour points as supportive when they could translate them into specific adjustments, with one explaining it was 'a good thing because then you know what you're doing wrong and you can improve on it' (S2, Year 7, Group 1, England). Conversely, some appeared relatively indifferent to behaviour tracking, describing the information as simply 'showing you what you've done' (S4, Year 9, Group 3, England), or stating that they 'don't really care' when viewing their records (S2, Year 7, Group 3, England), indicating that for some it functioned primarily as a record rather than a source of guidance or emotional impact.

At the same time, the presentation of accumulated feedback had a distinct emotional impact on how some children felt. A predominance of negative indicators was associated with feeling 'disappointed' (S2, Year 7, Group 3, England), suggesting that visual summaries of behaviour could be experienced as discouraging when they reflected persistent negative patterns, especially when this was the first thing they might see on logging on to a school app on a daily basis. On some learning management systems, for example Class Charts, behavioural displays were colour-coded, red being 'bad'. As described by one child, 'It's like a behaviour wheel, and then, like, what's green is good... If it's red, it's, like, bad. It's a negative wheel' (S2, Year 7, Group 3, England). When the same group were asked how it made them feel to check their behaviour wheel, one child said it made them feel 'disappointed' because half of it was red, and they didn't like seeing it (S2, Year 7, Group 3, England).

While the children reflected on the way their behaviour information was presented and the emotional effects of seeing it displayed, some felt that these systems actually did not provide sufficient detail or context to explain why particular points had been assigned.

In Class Charts, the children with predominantly negative behaviour records described the behaviour wheel as disappointing and discouraging. Some systems didn't make it clear to the children what they had actually done wrong, pointing to a tension within behaviour tracking systems: while some children valued feedback that helped them understand and improve their behaviour, others struggled to interpret the information presented, limiting its perceived usefulness (S5, Year 9, Group 3, England).

Feelings of frustration were also linked to situations where children were unable to understand or explain negative behaviour records. In one discussion, the children distinguished between merits, where they could usually see the reason for the award, and demerits, where explanations were not always available to them, even when parents and caregivers could access this information. When asked whether it would be useful to know why they had received a demerit, the children responded affirmatively, with one explaining: 'Because then you can explain it to your parents, because you don't even know why you've got it. There's no explanation' (S5, Year 9, Group 3, England). This suggests that persistent, yet sometimes unclear, digital behaviour records may have consequences beyond the child's understanding of their conduct, shaping interactions with parents and caregivers while limiting children's ability to account for or discuss the feedback they receive.

The children also highlighted that the emotional impact of behaviour tracking was shaped not only by the feedback displayed, but also by the processes through which behaviour became visible within the system. They explained that teachers needed to 'notice' behaviour in order for points to be awarded, while also describing considerable variation in how different teachers used the platform. Some teachers were perceived as giving out points frequently whereas others were described as focusing more heavily on sanctions (S2, Year 7, Group 2, England). When asked whether they wanted to be noticed, one child responded, 'No ... I don't', adding that it depended on both the lesson and the teacher (S2, Year 8, Group 2, England). These observations complicate the apparent objectivity of behaviour tracking presentations.

While the resulting scores and visual indicators may appear fixed and authoritative, the children recognised that the records themselves were shaped by teacher judgement and inconsistent practices. This is particularly significant given the prominence of behaviour displays within platforms such as Class Charts, where children could be confronted daily with their behaviour charts and negative behaviour points that they did not necessarily experience as fully within their control.

The children also highlighted that the usability of these platforms influences educational participation. While learning management systems for homework and timetables were generally described as straightforward to access, some behaviour-related information was perceived as confusing or difficult to interpret. One child explained that parts of the system on GO 4 Schools 'don't really make sense', describing interfaces dominated by 'lines' and 'numbers and numbers' (S4, Year 9, Group 2, England).

> It says, "you went to the toilet during this..." And then it tells you if you went to see Reception as well, if you were, like, feeling ill, which is quite weird because they don't need to know your every single move.

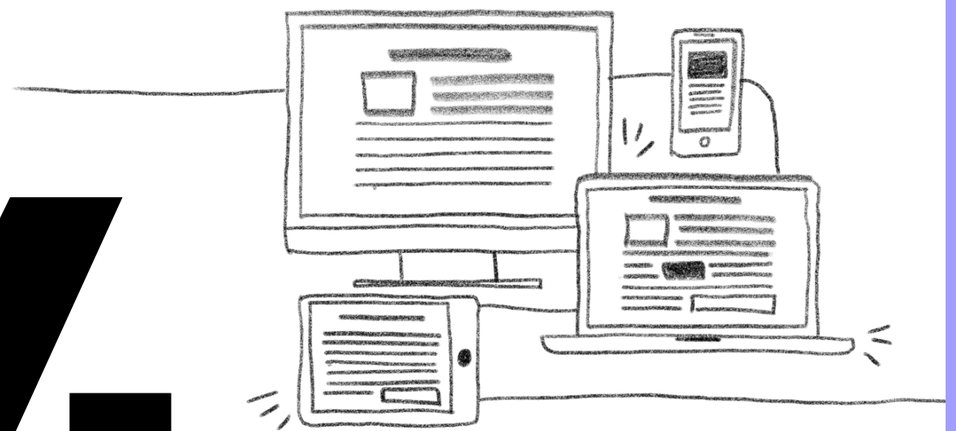
S4, YEAR 9, GROUP 1, ENGLAND

Conclusion

While points, badges, streaks, levels and behavioural records may encourage participation, it is less clear whether they foster meaningful learning or primarily incentivise engagement with the platform itself. Indeed, in some cases, the children appeared to focus on maintaining metrics, collecting rewards or avoiding negative behavioural markers, raising questions about the balance between intrinsic and extrinsic motivation.

By rewarding particular actions and making aspects of performance and behaviour visible, these systems can influence not only children's behaviour but also their emotional experiences of learning. For some children, platform-defined indicators of competition success may be encouraging; for others, they may contribute to feelings of pressure, inadequacy or unfairness. This highlights the need to consider not only whether such systems are 'effective' within certain metrics of achievement, but also how they affect children's sense of achievement, self-worth and belonging within educational environments. Each of these factors occupies a significant place within a children's rights analysis, particularly given their potential implications for how children experience and exercise their right to education.

04.



Procurement and implementation

Key takeaways

One

Schools are being left to assess EdTech with too little evidence or support:
Across all four nations, teachers and school staff described having to decide for themselves whether products were worth procuring, often relying heavily on claims made by the companies selling them. While governments emphasise school autonomy, staff called for clearer guidance and stronger evidence about what works. Without it, schools are left making expensive decisions with limited information.

Two

Brand reputation can become a substitute for independent standards:
In the absence of clear guidance, teachers described relying on brand name, longevity or awards when deciding whether to adopt a product. These may be useful signals, but they are not independent evidence that technology is effective, safe or appropriate for children.

Three

EdTech is beginning to shape education itself:
Teachers described technology influencing what and how subjects were taught, including where commercial viability affected the resources available. We also heard concerns about adapting educational practice to technology companies' rules, including US age thresholds. As AI develops, this raises a bigger question: who gets to decide how we educate children?



FIGURE 8
The ‘magic bag’ activity with Year 3 pupils

Introduction

The technologies children use in school, including those discussed in the preceding chapters, are shaped long before children enter the classroom. Decisions about procurement determine not only which products schools adopt, but also the commercial relationships, pressures, data practices and design features that become part of children’s everyday educational experiences.[73] As digital technologies and AI-enabled tools have become more deeply embedded in education, procurement has become an increasingly important mechanism through which schools shape children’s digital environments. A recent Department for Education (DfE) report highlighted the complexity of the contemporary EdTech market, describing a rapidly evolving landscape in which schools must navigate an expanding range of products while balancing educational priorities and value for money.[74] The report also identified considerable variation in English schools’ digital maturity[75] and procurement capacity, alongside continuing barriers to safe and effective technology adoption.[76]

Against this backdrop, understanding how procurement decisions are made is increasingly important from a child rights perspective. While recent policy work has examined the structure of the EdTech market and schools’ patterns of adoption, less attention has been paid to how procurement decisions are experienced by those making them, and how these decisions may shape children’s educational experiences.

This chapter explores EdTech procurement through a child rights lens. Schools participating in this study varied considerably in their organisational structures, pupil populations and levels of digital maturity, with some operating established digital strategies and specialist leadership while others relied more heavily on departmental or individual teacher decision-making. Despite these differences, the teachers and children consistently framed procurement ideals around educational purpose rather than technological innovation. The findings that follow examine the educational, organisational and practical considerations that shaped procurement decisions, and the implementation of what is procured.

At the moment it's the Wild West... There's thousands of things out there. How do we know which is the best? How do we know which is the most impactful? Because at the end of the day, we're in the business of helping kids, not making money.

S2, INTERVIEW, ASSISTANT HEADTEACHER AND GEOGRAPHY TEACHER, ENGLAND

04.1

What motivates procurement

Across the study, the teachers and school leaders described inclusive, aspirational institutions concerned with widening opportunity, supporting wellbeing and meeting diverse needs. As one Scottish school leader put it, the school's purpose was 'lifting up young people and opening doors', particularly for those who would be the first in their family to attend university or secure graduate employment (S3, Interview, principal teacher of Technologies, Scotland). This positioning shaped how digital tools were assessed: less as innovations in themselves than as interventions that could contribute towards broader institutional aims. This emphasis on educational purpose was reflected throughout, with technologies judged according to the educational value they offered rather than their novelty.

However, educational value was understood differently across schools, with technologies selected according to curriculum priorities, children's needs and accessibility requirements. As a result, provision varied considerably, ranging from shared classroom devices and core learning platforms to specialist technologies supporting computing, engineering and creative subjects. In each case, schools described technology as a means of addressing particular educational goals rather than an end in itself.

Technology was sometimes introduced to address practical shortages rather than because digital approaches were seen as preferential. A Year 6 teacher explained that digital reading tools initially helped overcome shortages of physical books, although the school ultimately used freed-up funding to purchase the books themselves rather than adopting the digital tool as a long-term replacement (P2, Interview, Year 6 teacher and head of Digital Strategy, England).

Rather than reflecting a presumption that digital is always better, these accounts suggest that schools were trying to make pragmatic decisions about where technology could add educational value.

Complementing rather than replacing teaching

Institutional ethos shaped the criteria by which digital tools were judged. Even where a school described itself as 'digital-first' (S3, Interview, principal teacher of Technologies, Scotland) or forward-thinking, technology was framed as conditional: useful when it served specific learning aims, but not a default replacement for established resources. A principal teacher of Technologies in a secondary school in Scotland (S3) stressed that a digital-first policy did not remove the value of other materials, and that textbooks remained relevant in some contexts.

Physical books and exercise books were valued for forms of engagement that digital platforms did not always replicate, particularly for children with fewer opportunities to read outside school (S4, Interview, English teacher, England):

> We have got a big push on oracy because we understand – speaking to each other is really important. We understand that through perhaps overuse of technology as children, their ability to talk to each other and identify body language, things like that, perhaps those skills aren't developed properly. So, we do a lot of work on oracy. And reading is a really big push for us because, again, it's that trying to make sure that the children that haven't had the same start in life as others have that raised up. - S4, Interview, deputy headteacher, England

Sometimes, physical books were used alongside other tech – the Curriculum lead in a primary school in England (P4) described Chromebooks as useful for collaboration and planning before writing in a physical book, noting that children often took more care when writing in the physical books, because 'they've kind of got a rough plan of what that writing is going to look like'.

This suggests a model of purposeful integration, that is, that digital literacy was part of the wider school vision, but decisions about tools remained tied to relevance and pedagogical fit (S3, Interview, principal teacher of Technologies, Scotland).

Matching technology to learner needs and age groups

Procurement decisions were also shaped by curriculum stage and individual learner needs. The secondary school assistant headteacher and Geography teacher in England (S2), for example, felt that Seneca Learning was more effective at Key Stage 4 than Key Stage 3, explaining that, 'the Key Stage 4 curriculum is exam board, so it's set, whereas Key Stage 3 curriculum is a bit more independent to the school'.

In primary school settings, devices and applications were used to build digital skills progressively. The Computing/phase lead and English lead in England (P5) described platforms such as Widgets, for building word mats and visual supports for pupils who struggle with literacy, and Lexia, for reading comprehension.

The secondary school deputy headteacher in England (S4) described more formal, targeted procurement for individual children at their school, including tablets programmed with translation functions 'that go between Cantonese and English' for those with English as an additional language (EAL), and a bespoke communication device for a non-verbal child 'set up so that it's lots of pictures that he can move between'. They were careful to frame this as targeted rather than routine procurement, stating 'what we don't do is have it as a prolific intervention. So it's more of a one-off', and described reader pens and keyboards being procured for use in formal assessments for children whose handwriting could not otherwise be deciphered.

Procurement aligned with school strategy

Some schools had clearer strategic frameworks for evaluating potential technologies and making these decisions before procurement. The primary school Curriculum lead in England (P4) linked procurement choices to strategic planning, explaining that decisions ultimately went 'back to your digital strategy', and noted that this supported avoiding long-term commitments to any single tool.

Some schools followed a strategy of first trialling the tech and reviewing it before making a final decision on whether to keep it. The primary school Year 6 teacher and head of Digital Strategy in England (P2) described a standard sequence in which a new app would be tried 'for a term', before returning to discuss with the headteacher 'yay or nay, does it work, what does it use for, next step'. A similar process shaped the selection of a maths app, where a head of department attended a conference, discussed it with other heads of department, and trialled it with a single year group before wider rollout (S4, Interview, deputy headteacher, England).

Long-term relevance also shaped procurement decisions. The secondary school principal teacher of Technologies in Scotland (S3) described choosing Adobe software and Python specifically because they reflected current industry standards, questioning whether teaching an outdated language such as Visual Basic could be said to prepare pupils for life after school.

The teachers and school leaders also described seeking evidence from beyond their own schools before making procurement decisions. While a secondary school principal teacher of Technologies in Scotland (S3) described being wary of staff adopting tools simply because other schools appeared to be using them, he did find value in seeking some evidence from beyond their own schools before making procurement decisions. For instance, he described attending a supplier's conference for a 3D modelling app and then contacting the company directly to ask which other schools were using it, in order to discuss 'how are you using it, what have you found, challenges', as part of a deliberate effort to 'gather as much information … to then get an informed decision'.

The primary school Year 6 teacher and head of Digital Strategy in England (P2) described a similar preference for seeing an app demonstrated successfully elsewhere. They trusted an app more after seeing evidence such as 'we've done this for three years with these kids, we've won this award', noting they were not aware of any official, government-endorsed list of recommended apps to consult instead.

Collectively, these findings indicate that the teachers sought to align procurement with longer-term educational priorities through planning, trialling and evidence gathering, rather than adopting technologies simply because they were new or widely used elsewhere.

Cost and value for money

Budget was a key issue in these decision-making processes. EdTech procurement was rarely funded through a single route. Several teachers described drawing on a combination of school and departmental budgets, local authority funding, government grants, external partnerships and, in some cases, parental fundraising (S1, S2, S3; P1, P5). Across these different funding routes, they consistently emphasised that technology purchases needed to demonstrate educational value and represent good use of limited resources. Rather than acquiring technology for its own sake, procurement was generally described as a process of balancing educational priorities against financial constraints.

Justifying expenditure

The teachers interviewed in two secondary schools in England (S1 and S2) described departments having some autonomy over technology spending, but with purchases requiring evidence that they would benefit teaching and learning. In one secondary school (S1), smaller purchases appeared to be generally easier to approve, while more substantial investments required stronger justification. The secondary school Digital Media teacher in England (S1) explained that this often resulted in using free versions of software until educational needs justified upgrading to paid alternatives, with Logic being one of the few products consistently funded because it had more features available than any of the 'free ones on offer'. In S2, the assistant headteacher and Geography teacher similarly described routinely questioning expenditure requests, noting that departments retained autonomy over subscription spending while operating within finite budgets. He described initially declining a request to purchase an online homework app, explaining 'I'm tight with money, so I said no, until you can show me', and approving the purchase only once a plan for measuring impact was provided.

According to these accounts, procurement decisions were frequently devolved to departments but remained subject to scrutiny over educational value and affordability.

Managing financial risk

Schools also used different approaches to manage financial risk. In one primary school in England (P4), the Curriculum lead described using rolling leases rather than purchasing devices outright, allowing equipment to be updated while avoiding large upfront costs. The same school reviewed its 'digital package' annually, removing tools that no longer provided sufficient value.

Trialling before purchasing was a common approach. An English teacher in England (S4) described using year-long trials before committing to subscriptions, including discontinuing Sparx English after it failed to produce the expected benefits. The Year 6 teacher and head of Digital Strategy in a primary school in England (P2) similarly described senior leaders as cautious with spending and willing to seek further trials before purchasing. This caution was partly linked to concerns about vendor influence. In a secondary school in Scotland (S3), the principal teacher of Technologies expressed concern that free trials or low-cost introductions could lead schools into expensive commitments, and described choosing to purchase equipment independently to avoid bias or pressure from suppliers.

A key challenge was determining whether technologies represented a worthwhile investment over time. The principal teacher of Technologies in a secondary school in Scotland (S3) described how the school had considered investing in VR equipment but, after doing their 'homework' and identifying concerns around the provider's reliance on a closed ecosystem, decided against purchasing the product, opting instead for an alternative, which was considered more sustainable.

Similar concerns were raised around contracts, with teachers describing situations where schools had committed to products that did not meet expectations but were unable to easily change systems until the contract period ended (S4, Interview, English teacher, England; P2, Interview, Year 6 teacher and head of Digital Strategy, England).

Devices could also be lost to theft or damage. One participant described VR headsets being stolen, prompting a review of security measures (S1, Interview, Digital Media teacher, England), while another described comparing breakage rates against other local authorities to benchmark performance (S3, Interview, principal teacher of Technologies, Scotland).

Some of the teachers and school leaders were therefore aware of the financial trap they could fall into, and described procurement as an ongoing process of managing financial risk, rather than a single purchasing decision.

Maximising value from limited resources

The teachers and school leaders also described a range of strategies for maximising the value of limited procurement budgets. Alongside careful scrutiny of expenditure, schools sought to reduce costs, secure favourable licensing arrangements and make use of external partnerships where these supported educational priorities.

The principal teacher of Technologies in a secondary school in Scotland (S1) explained that the school secured a licence for the full Adobe Suite at roughly £20 per computer per year against a retail cost of around £40 a month for Photoshop alone. He also described contacting providers directly to request and negotiate free educational access and licences to otherwise paid tools, securing licences for a bridge simulation program, a road-mapping tool and a Nintendo Switch game through this approach.

In a primary school in England (P4), the Curriculum lead described the benefits of being a 'Google Reference' school, including access to training and updates from Google. The same participant later reflected that Google's education programs had provided certification, networking opportunities and visits to technology companies alongside the procurement

relationship, noting that 'Google give us a lot back in terms of opportunities'.

In many interviews, the teachers and school leaders made clear that schools sought to maximise the educational value of limited resources through strategic procurement decisions, rather than simply reducing costs.

Infrastructure, support and long-term sustainability

The teachers and school leaders described having to carefully weigh the potential educational benefits of new tools against practical considerations such as cost, sustainability and whether the technology could realistically be supported once purchased (P4, Interview, Curriculum lead, England; P2, Interview, Year 6 teacher and head of Digital Strategy, England; S4, Interview, deputy headteacher, England).

Compatibility could pose a barrier: one child noted that some Chromebooks could not run Photoshop, 'because it's Google' (S5, Year 10, Group 2, England). Software procurement was highlighted as a particular difficulty, with a Computer Science teacher in a secondary school in England (S2) noting that purchasing licences and arranging installation could involve lengthy processes.

Practical infrastructure issues could also undermine technology in use, with one child describing persistently slow school internet as a barrier to learning (S3, Senior 4-6, Group 1, Scotland).

Schools highlighted the importance of considering the long-term sustainability of procurement decisions. Technologies could lose value when they became outdated, unsupported or no longer aligned with school needs, as when schools moved away from tools such as Google Jamboard and some VR equipment (P4, Interview, Curriculum lead, England). One-to-one Chromebooks introduced during the pandemic were eventually withdrawn, not for cost reasons, but because of insufficient parental support at home and limited IT technician capacity to maintain the devices once they began to fail (S4, Interview, deputy headteacher, England). Similarly, schools described replacing hardware over time as devices aged and became less effective, creating ongoing financial pressures around maintaining up-to-date equipment (P2, Interview, Year 6 teacher and head of Digital Strategy, England).

Sustainable procurement depended not only on selecting appropriate technologies, but also on ensuring they remained compatible, supported and maintainable throughout their lifespan.

Staff capability

The long-term value of procured technologies depended not only on the technology itself, but also on sustained investment in staff capability. A principal teacher of Technologies in a secondary school in Scotland (S3) described how a previous interactive whiteboard had ended up being used by staff as little more than a screen because training on it had not been properly embedded when it was introduced. When an authority-wide contract later required switching to a different provider's boards regardless of preference, the school treated staff training as a priority from the outset, building regular drop-in sessions into the school week.

This example indicates that the long-term value of procured technologies depended not only on the technology itself, but also on sustained investment in staff capability.

04.2

AI procurement and guidance

AI presented distinctive procurement challenges that the teachers and school leaders felt differed from those associated with more established technologies because schools were making decisions in an area where they felt standards and guidance were still emerging. As the online safety advisor in England described, digital strategy across schools is 'a hodgepodge, isn't it? Because there are no standards'.

AI, age, skill development and evolving capacities

Age was an important factor that bore directly on procurement and implementation of AI tools, with several framing this as a protective consideration rather than simply a technical one. One school described a deliberate policy of not introducing AI until the children were older and had developed core writing skills, explaining that:

> You need to teach children how to write themselves before introducing them to AI ... once you have those skills as an older pupil, then ... we introduce AI and allow them then to use the AI to enhance what they write and give them ideas, generate ideas. - S6, Interview, head of ICT and ICT coordinator, Northern Ireland

The teachers and school leaders consistently linked the timing of AI introduction to children's existing literacy development rather than chronological age alone. Notably, in a secondary school in Northern Ireland (S6), the head of ICT and ICT coordinator explained that this reasoning was said to have originated with a child rather than staff member; she described an older student raising the issue herself in discussion, articulating clearly what she felt children her age, and younger peers, should and should not be using AI for. These examples suggest that decisions about the sequencing of AI access and school-supported implementation reflected a broader process of sense-making around AI adoption, with both school staff and children contributing to evolving understandings of how it might be useful.

Age restrictions embedded in commercial user agreements for AI emerged as a particular procurement challenge with direct implications for children's protection from harm. The principal teacher of Technologies in a secondary school in Scotland (S3) explained that 'a lot of the user agreements for AIs are actually 18', and that 'there are schools that are letting pupils use them, but the user agreement is 18'. They gave the example of Gravity Sketch, a 3D modelling tool used in VR headsets at their school, describing how the school approached the provider directly as part of procuring the tool to explain 'this is our use case, this is how we're doing it, supervised', after which the company agreed to the school's use, reflecting a deliberate choice to 'follow the rules as opposed to skirting the rules'.

They contrasted this with what they suggested was common practice elsewhere, recalling that Edmodo's user agreement had specified an age of 14, 'but, you know, 10, 12 years ago, people were using it with S1s that were 11', which they attributed to people not reading user agreements closely enough to realise 'that you shouldn't'. He suggested the 18-plus threshold for AI tools was largely 'to do with American law', which he felt had 'just been copied and pasted over to the UK' without necessarily reflecting a UK-specific judgement about risk.

This account illustrates how provider-defined age restrictions, often originating outside UK educational contexts, could create uncertainty during procurement, leaving schools to determine how commercial terms aligned with their own safeguarding and legal responsibilities. These accounts also indicate that, in the absence of sector-wide guidance, schools were required to interpret provider terms and make local judgements about age-appropriate AI use.

AI procurement differed from procurement of more established technologies because schools were required to make simultaneous educational, safeguarding, equity and commercial judgements in an area where participants perceived standards and guidance to be still emerging.

Structural inequalities and equity considerations

Structural inequalities across schools emerged as an important consideration and challenge for procurement. An online safety advisor in England suggested that private schools often benefited from greater investment in paid EdTech and dedicated digital leadership capacity. This was echoed by the assistant headteacher and Geography teacher in a secondary school in England (S2) who contrasted access to technology in his school with the greater resources available in the private sector, arguing that the cost of purchasing and maintaining EdTech could widen existing inequalities.

This picture may be complicated somewhat by institutional licensing arrangements, which could substantially reduce the effective cost of software that would otherwise appear overwhelming.

Free versions of software often created differences between what teachers could access and what children could use independently, with some premium features only available when the children were invited into specific classroom environments (S6, Interview, head of ICT and ICT coordinator, Northern Ireland). The children also highlighted limitations with free versions of software, including restricted features in applications such as Canva and specialist software where full functionality required paid upgrades (S1, Levels 2 and 3, Group 1, England).

Access was also uneven within schools. One secondary school dance teacher in England (S5) described children in the same institution having markedly different resources, from multiple devices at home to reliance on phones where laptops or Wi-Fi were limited. Procurement decisions therefore had to account not only for classroom provision but also for children's differing opportunities to use technologies outside of school.

Teaching staff also considered the implications of AI introduction for educational equity. The principal teacher of Technologies in a secondary school in Scotland (S3) described a related concern shaping a cautious approach when first introducing an AI-assisted design tool, explaining the department was conscious that 'the attainment gap could widen' if only children with more digitally engaged parents and caregivers, or home internet access, ended up benefiting from early access.

Issues of equity were described as extending beyond providing access to devices within school, encompassing children's differing opportunities to benefit from technology outside the classroom.

Guidance

Teachers and school leaders wanted guidance that articulated principles for effective and responsible EdTech use, while still allowing schools to exercise professional judgement in response to local contexts and rapidly evolving technologies, particularly AI.

Guidance was not generally framed as simply a matter of restricting or increasing technology use. Instead, several school professionals argued that guidance should establish principles for meaningful and appropriate use, with attention to when and why technology is used rather than focusing only on the presence or absence of devices. The online safety advisor in England argued that discussions should move away from concepts such as 'screen time' towards 'digital standards', suggesting that the quality and purpose of technology use mattered more than the amount of time spent using devices.

A recurring theme was that any guidance should be informed by those with direct experience of classroom practice rather than developed externally and imposed on schools. One Year 5 teacher and PSHE lead in a primary school in England (P3) argued that 'guidance needs to come from people who are in the classroom', contrasting this with government proposals that 'don't see it in action'. Similarly, the Curriculum lead in a primary school in England (P4) argued that frameworks should involve 'people on the ground and the children as well', suggesting that children should have a role in shaping approaches to technology use. She also proposed that guidance should draw on expertise from schools, trusts, digital strategists and potentially international examples, given a growing 'gap between different parts of the world' in digital education. The same participant argued that decisions about EdTech should be informed by seeing technology used in practice, because those developing guidance should engage with examples of classroom implementation rather than relying on assumptions about technology use.

Alongside calls for shared frameworks, the Year 6 teacher and head of Digital Strategy in a primary school in England (P2) argued that decisions about EdTech should remain responsive to individual schools, cohorts and children's needs rather than following a single model. They suggested that 'not everybody needs that, some people have actually got really good maths and they need something else', and that EdTech should be focused on accessibility and addressing specific children's needs rather than simply fulfilling predefined skills categories.

Gaps in national direction

Professionals in the Northern Ireland interview described having to develop their own approaches to AI use because they had not received clear national direction. They explained that, when their school participated in an AI-related pilot, decisions about issues such as data protection and what information could be entered into AI systems had been made internally rather than being supported by a top-down framework from the Department of Education.

A lack of clear guidance around GenAI emerged as a particular concern. The online safety advisor in England described current DfE guidance as 'non-statutory', and argued that AI needed to be embedded within leadership and strategic decision-making rather than treated as an optional issue. They also warned that simply blocking AI tools could be counterproductive because children and staff might continue to use them 'underground' without appropriate understanding or safeguards.

Participants in the Northern Ireland interview similarly described uncertainty around AI policy, curriculum expectations and responsibility for decision-making. They argued that technological change was moving faster than formal curriculum processes, noting that their exam board specification had been written in 2016 and had not been updated since, despite substantial developments in AI and digital technologies.

Training

Several school staff linked the need for procurement guidance with the need for professional development and implementation support. The Curriculum lead in a primary school in England (P4) argued that schools could not simply procure and provide devices without ensuring that teachers and children had the necessary digital skills and literacy, particularly around AI, suggesting that staff required training and support alongside access to technology.

The same participant argued that digital literacy should include helping children understand risks associated with emerging technologies, including AI systems designed to encourage continued engagement online.

A Year 5 teacher and PSHE lead in a primary school in England (P3) similarly argued that guidance should be accompanied by whole-school training on what technology should be used for and when it was appropriate, suggesting that schools would benefit from collective discussion about effective practice and appropriate levels of technology use.

Interviewees described procurement as requiring investment in people as well as technology, arguing that training, digital literacy and implementation support were necessary for technologies to realise their intended educational value.

Conclusion

Overall, the recurring concern across several interviews was the sense of needing to justify expenditure from tight budgets, financial risks, a lack of available guidance, and therefore the need for stronger evidence to support decisions about EdTech adoption, procurement and implementation.

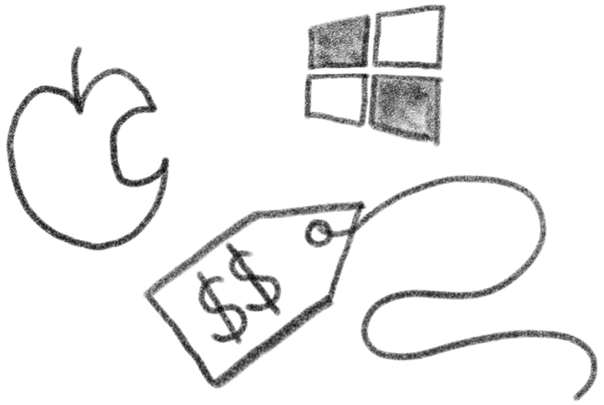
An assistant headteacher and Geography teacher in a secondary school in England (S2) argued that schools would benefit from 'more stringent reviews' of EdTech products and more robust examination of the evidence used to support claims of impact. They questioned how schools could identify the most effective products when companies themselves were responsible for promoting their own impact claims, describing the EdTech marketplace as 'the Wild West' because of the large number of available products and limited guidance about the most effective approaches:

> At the moment it's the Wild West. There's thousands of things out there … How do we know which is the best? How do we know which is the most impactful? Because at the end of the day, we're in the business of helping kids, not making money.

The need for stronger evidence was linked directly to the practical challenges of procurement. The same participant highlighted the difficulty of justifying expenditure on technology when schools faced competing priorities, arguing that clearer information was needed about 'the best approaches' and 'the most impactful' solutions to support informed purchasing decisions. He emphasised that schools needed confidence that investments represented effective uses of limited resources rather than simply responding to commercial claims.

Educators therefore described a need for independent and practice-based evidence to support procurement decisions, enabling schools to distinguish educational value from commercial claims and make more confident investments in EdTech.

05



Commercialisation, the digital economy and Big Tech in the classroom

Key takeaways

One

School identities are being shaped by Big Tech:
Schools are increasingly associated with the technology brands they use, while our evidence shows technology can also influence what and how they teach. Where commercial availability or design begins to determine educational practice, there is a risk that education adapts to technology rather than the other way around. Who gets to shape what education looks like?

Two

Children can't escape advertising – even at school:
Advertising and commercial models are entering the classroom through general purpose platforms and freemium products, with some additional features and protections behind paywalls. This raises a basic question: should the protections children receive in education depend on what their school can afford?

Three

Commercial technology increasingly decides what children can see and what gets flagged:
Schools are relying on commercial filtering and monitoring systems to determine what content is blocked and what activity is flagged for attention. Children described legitimate learning being blocked while inappropriate content still got through, and systems sometimes failing to distinguish between deliberate searches and accidental activity. These decisions are not neutral: they are shaped by the design, rules and assumptions built into commercial products. Safeguarding therefore requires scrutiny not only of what these systems protect children from, but of who gets to decide what children can see and what counts as concerning.

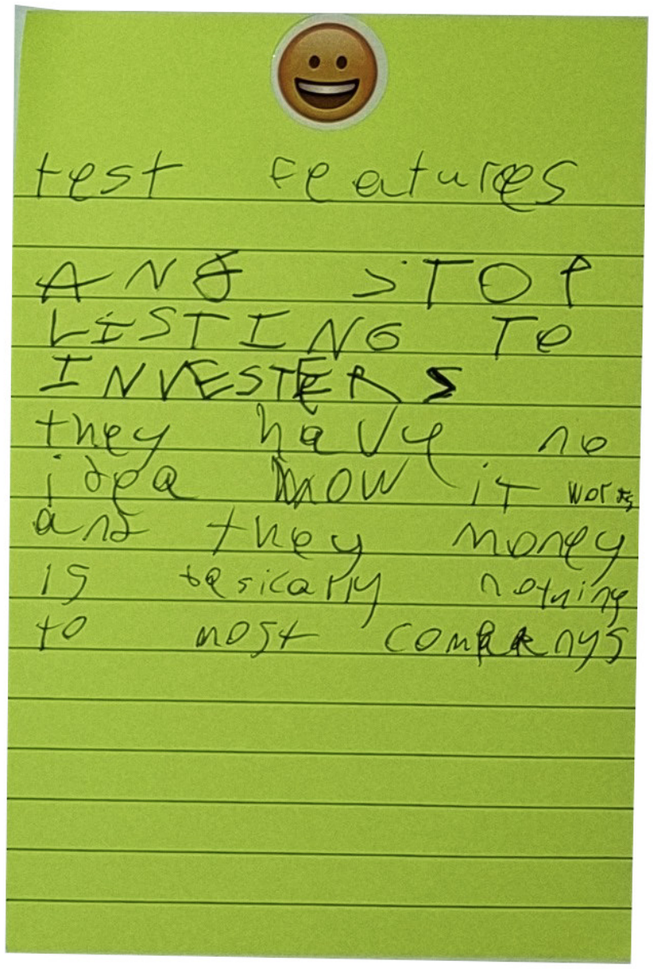


FIGURE 9
One child's call for change
(S1, Levels 2 and 3, Group2, England)

Introduction

In the UK, schools have traditionally been distinguished by their educational character – comprehensive, grammar, faith, academy or free school. These categories say something about the values and educational approach shaping a child's experience, and can form part of how parents and caregivers choose between schools. Increasingly, schools are also becoming identified by the technology ecosystems they use: a 'Google school', a 'Microsoft school' or an 'Apple school'. When communication, homework, creative tools and log-ins all run through one company's infrastructure, the technology a school uses can become a reputational marker in its own right, shaping perceptions of how 'modern' or well-resourced it is without necessarily saying anything about educational quality. As the findings in this chapter show, however, this technology identity is rarely the result of a deliberate pedagogical decision; it more often reflects budget, licensing arrangements or convenience.

While research into EdTech is on the rise, there remains a lack of critical questioning around *who shapes* the discourse around EdTech as a solution to educational challenges and *who benefits* – is it the children, or commercial interests?[77] Commercial organisations have long played a role in public education through the provision of textbooks, equipment, software and other educational resources. In this report, commercialisation refers not simply to the involvement of private companies in education, but to the increasing influence of commercial platforms, business models and incentives on children's experiences of learning.

As education has become increasingly digital, it has also become more closely connected to the wider digital economy. Some technologies are developed specifically for teaching and learning, while others, such as YouTube, are general purpose platforms that have become embedded in classroom practice. As West[78] has observed, the expansion of educational technology has brought public education into closer relationship with commercial digital infrastructures. The result is that children increasingly learn through products and services developed for different purposes and operating under different commercial models.

This chapter explores how these wider commercial dynamics are experienced in educational settings. Drawing on children's and teachers' accounts, it examines advertising, data collection, monitoring, freemium business models and the use of general purpose digital platforms alongside dedicated educational technologies.

Technology sometimes stops teachers being a teacher.

P3, INTERVIEW, YEAR 5 TEACHER AND PSHE LEAD, ENGLAND

05.1

Big Tech and commercial interests in the classroom

EdTech does not operate outside the wider commercial environment. Teachers and school leaders frequently described technology as operating within commercial markets, although several distinguished between commercially driven platforms and tools developed by practitioners with explicit pedagogical aims. One assistant headteacher and Geography teacher in a secondary school in England (S2) put it simply: 'if you're working in a capitalist world, everything's driven by commercial interest', and confirmed that this applied to EdTech too. At the same time, they distinguished commercial motive from educational quality, citing Seneca as a tool based on legitimate research into 'retrieval practice, spacing, chunking, interleaving', even while describing it as '100% … for money'.

A school online safety advisor in England similarly distinguished between 'really, really invested, knowledgeable, expert, pedagogical professionals developing EdTech tools that are making no money' and commercial products such as Times Tables Rock Stars and 'the Big Tech', naming Google and YouTube specifically.

The example of Times Tables Rock Stars occupies a middle position: unlike Google or YouTube, it was developed specifically as an educational product, but it remains part of a commercial EdTech market. The distinction being made was clear: there are technologies designed specifically around educational purposes and those operating within a much broader commercial ecosystem.

Market incentives can also shape what technology is available to schools in the first place. A headteacher in a primary school in Wales (P1) described a resourcing gap they attributed directly to market size, explaining that providers 'won't provide resources for us' because Wales has a population of just over 3 million compared with England's 60 million. She was explicit about the commercial motivation behind this: 'these people are not altruistic. Mr Google and Mr or Mrs Microsoft are not doing it for the benefit of children in Wales or England'.

These insights are important because they show that commercialisation does not enter education only through products explicitly marketed as EdTech; it can also enter through the wider digital infrastructure schools and children already use, connecting everyday educational practice to the commercial models, incentives and platforms of the wider digital economy.

Is it EdTech or Big Tech?

At times, there did not appear to be a clear delineation between what was, and was not, 'EdTech'. YouTube, for example, is not commonly considered traditional educational software by design, but a general purpose commercial platform that has become embedded into everyday classroom and independent learning practice.

Teachers who plainly relied on it in the classroom did not often describe themselves as using technology for education at all. The online safety advisor in England made this point directly, describing practitioners who denied using any technology in their teaching while a YouTube video played on the board behind them, concluding that 'they don't even see it as EdTech. And it is technology for education'.

The children similarly described extensive and detailed engagement with YouTube outside school, sometimes for 'educational' purposes, even where they said it was rarely part of routine classroom teaching (P1, Year 5, Group 2, Wales; P2, Year 3, Group 2, England).

Despite this perceived distinction, however, YouTube has increasingly emphasised its educational function, particularly in response to debates about which platforms should fall within social media restrictions.[79] Even if YouTube is understood as having a legitimate educational function, however, it does not operate as an educational platform in isolation. It sits within Alphabet's wider commercial ecosystem, alongside products and services that generate value through advertising, subscriptions, user engagement and the collection and use of data. The platform is chiefly designed to serve a range of purposes and audiences

beyond education, with commercial features built into the experience alongside its enormous library of content.

This is important to note within the context of its use in schools. Teachers may be using YouTube for an educational purpose, for example using a video to explain a topic, but the platform itself does not become an educational product simply because it is being used that way. Its wider commercial model remains present. Children can still encounter advertising, recommendations, subscription prompts and other features of the consumer platform alongside the educational content they have been asked to watch. Its use in schools therefore brings elements of the wider digital economy into the classroom.

The distinction between Big Tech and EdTech is therefore not always straightforward. A product does not need to describe itself as EdTech to shape what happens in education. A platform can become part of the infrastructure of learning simply because it is familiar, available and useful.

This ambiguous relationship with classroom practice sat alongside a near-total absence of policy specific to YouTube. The school online safety advisor in England described 'no standards at the moment' explaining what good technology looks like, while a Year 6 teacher and head of Digital Strategy in a primary school in England (P2) described YouTube as 'the Wild, Wild West'.

This leaves YouTube occupying an ambiguous position within educational practice: simultaneously an educational resource, an entertainment platform and a social environment, with these identities continually intersecting in classroom use. The teachers valued YouTube's educational potential while questioning whether its content could be trusted without careful prior checking.

One Year 5 teacher and PSHE lead in a primary school in England (P3) recalled selecting what appeared to be an age-appropriate video about the Ancient Maya only to find that it unexpectedly included descriptions and illustrations of alcohol consumption. Reflecting on the incident, the teacher concluded that 'you can't just … whack on a video' and that 'you do need to watch and go through things'.

This illustrates a wider problem: when platforms designed for a broad consumer audience become part of classroom practice, teachers may also inherit the risks and responsibilities associated with those platforms.

These examples suggest that the classroom has become connected to the wider digital economy in ways that are not always immediately visible. The question is not simply whether children are using technology to learn, but what happens when the technologies they use to learn are designed around purposes that extend beyond education.

The commercial model comes into the classroom

Advertising is something children encounter far more directly through YouTube than through most of the dedicated school platforms discussed, and their accounts showed a clear distinction: dedicated school platforms were mostly ad-free, while general purpose commercial tools that are still used in educational settings, YouTube above all, were not.

In this section we explore how commercialisation does not always look like a school buying a commercial product. Sometimes it is encountered by children as part of the everyday experience of using a platform for learning.

Advertising

YouTube featured differently from the other platforms discussed by the children because it was described as being used across both educational and non-educational contexts. The children reported browsing YouTube independently, including for homework and personal interests, while also encountering it in lessons when teachers played videos in class. As a result, advertisements were described as appearing regardless of whether YouTube was being used by the children themselves or by teachers during lessons (S1, Level 1, Group 1, England; S2, Year 7, Group 3, England; S4, Year 9, Group 1, England; S5, Year 9, Group 3, England).

One striking example involved a lesson on the Holocaust being interrupted by an Uber Eats jingle – the children described 'learning about a really serious topic' and then getting an ad, which was 'always awkward' (S4, Year 9, Group 1, England).

Alongside complaints about timing, some children also raised concerns about the content of advertising itself. One child commented that adverts 'pop up and some of them are inappropriate' (S1, Level 1, Group 1, England); another said YouTube adverts could sometimes be inappropriate because they were 'random' (S2, Year 8, Group 1, England); and one younger child recalled seeing an advert showing a naked person (P4, Year 4, Group 1, England). These examples were relatively isolated rather than universal across groups, but they illustrate the kinds of advertising children sometimes encountered when using a commercial platform for educational purposes.

They also provide an illustration of the commercial logic of a consumer platform that can remain present when that platform is being used for education. The context may have changed from entertainment to learning, but the platform's underlying business model has not.

Paying to remove the commercial experience

YouTube also stood apart because several children explicitly understood its advertising as something that could be removed through payment. Across different groups, the children referred to YouTube Premium as the subscription that removed adverts, with one remarking that 'no one's doing that' in relation to classroom use (S2, Year 8, Group 1, England), another explaining that Premium meant 'you get no ads' alongside other features (S2, Year 7, Group 1, England), and a younger child describing how their father paid around £13 per month so that adverts disappeared across YouTube services (P4, Year 4, Group 1, England). Another child suggested that adverts appearing at key moments were there 'just for you to buy a premium' (P3, Year 5, Group 3, England).

These comments indicate that at least some children understood YouTube's advertising as part of a commercial model in which an ad-free experience was available through a paid subscription.

This creates an interesting distinction between the educational use of a platform and the conditions under which that platform is commercially provided. A school may use YouTube because the educational content is useful, but the experience children encounter is still shaped by a business model based on advertising and paid subscriptions.

Teachers' strategies for handling adverts when showing YouTube content were personal workarounds rather than anything set at school level. One teacher described pre-loading videos specifically to skip past adverts, timing screen shares to avoid pupils seeing them, and occasionally turning an advert that slipped through into a short media literacy discussion about persuasive tactics (S4, Interview, English teacher, England). Another confirmed that adverts still appeared even when using the school's account, calling them something that 'drives me crazy', and said the school did not have a paid, ad-free version of YouTube available for classroom use despite also acknowledging concerns about inappropriate adverts (P3, Interview, Year 5 teacher and PSHE lead, England).

In practice, shielding children from potentially inappropriate or disruptive advertising, whether they encountered it themselves or via a link a teacher sent, depended largely on individual teachers noticing and reacting in the moment rather than on institutional policy or platform design.

Free trials and commercial pressure

Commercial pressure also surfaced in how schools were being sold new tools, particularly around AI. One teacher described schools 'getting pushed free trials', or low initial costs that would later be 'ramp[ed] up', leaving schools 'trapped and bought in' (S3, Interview, principal teacher of Technologies, Scotland). In this teacher's own school, a headteacher's offer to fund a paid AI tool (School AI or MagicSchool) was declined because Copilot was already free to use, although the same teacher noted Copilot access had been affected elsewhere by 'breaches that have been happening in different local authorities'.

Separately, an assistant headteacher and Geography teacher in a secondary school in England (S2) linked commercial opportunism to the pandemic directly, stating that 'a lot of these EdTech firms actually capitalised on the changing patterns that COVID created', while noting in the same conversation that some children they had visited at home had no laptop access at all.

These accounts point to another way the commercial model can shape education: not only through what children encounter when using technology, but through how schools are encouraged to adopt it in the first place.

Freemium vs premium

Where this discussion concerned the market forces behind EdTech, the children's own accounts focused more concretely on the 'freemium' mechanics they encountered day to day: which tools were free, what premium unlocked, and how they felt about the gap between the two.

The children identified the same handful of platforms as operating on a free-to-use, pay-to-unlock model, and in each case the same feature sat just out of reach. One child stated that on Canva 'all the good things on Canva … [are] on the premium thing and you can't use it without premium' (S1, Levels 2 and 3, Group 1, England), while another described ZBrush as limiting file sizes without the full version (S1, Levels 2 and 3, Group 1, England). Seneca showed the same structure again, with its 'standard' free tier contrasted with an AI helper behind a paid tier (S4, Year 9, Group 4, England).

A head of Science in a secondary schoolwide in Scotland (S3) described similar issues with Wayground. They described that Wayground has 'a lot of features on it for supporting learners with additional needs', but stated the department had only 'a faculty one', so some of the more

premium support features were harder to use and not available school wide. They explained: 'obviously I understand school budgets, we can't afford to have every single thing running'.

This recurring pattern, features that children could see but generally did not have access to, appeared to provoke a blunt reaction from them. Asked directly about premium features, a group of Year 9 children described premium as 'scamming' and 'a cash grab', with one adding 'school should access premium for free' (S4, Year 9, Group 4, England). A pupil in Northern Ireland, asked what they liked about the tools they used, wrote simply 'free, don't have to pay for things', and separately wrote that Canva should let students 'get all things for free and more variety and creativity, unlike it is now locked by a paywall' (S6, Year 11, Group 1, Northern Ireland).

What sat behind a paywall was not always just a feature, however; in at least one account, it was safety. One school safety advisor in England described 'some really catastrophic design in computing platforms that are free', naming Scratch specifically and stating that its community feature had produced 'cases of contact issues, safeguarding issues and contact' from 'strangers', contrasting this with j2e as 'a really well-managed child community'. This example suggests that limitations in free platforms may extend beyond restricted functionality, raising questions about how safety and governance are prioritised within openly accessible tools.

This changes the significance of the freemium model. If the difference between free and paid versions is simply additional functionality, it may be frustrating. If stronger safety, accessibility or support features are available only through payment, however, the consequences may be more significant.

Across these accounts, the freemium model seemed to produce the same basic frustration at every level: children locked out of features they could see but not use, a safety lead pointing to safeguarding sacrificed on a free platform, and teachers making budget-driven trade-offs that, in the case of Wayground, sometimes fell on children who needed the most support. What changed was not the underlying mechanic, free as the default with the better version behind a price, but rather the stakes attached to it.

Interestingly, however, this perhaps created an assumption that 'premium = better'. For example, an assistant headteacher and Geography teacher in a secondary school in England (S2) confirmed that their school used Seneca's free mode, stating 'I assume the premium package is better', but without being able to specify how.

This illustrates how sometimes commercial signals can become proxies for educational value: paying more can come to imply that a product is better, even where there is little independent evidence to support that conclusion.

When commercial technology becomes the infrastructure of safeguarding

Filtering and monitoring are often presented primarily as safeguarding measures: technologies that help schools control what children can access online and alert staff when activity is considered concerning. But they are also part of the wider digital infrastructure through which schools manage children's use of technology. Schools increasingly rely on commercially provided platforms and systems to filter content, monitor activity and identify potential risks. This means that decisions about what children can access, what is flagged as concerning and what information is surfaced to staff are not always made solely by teachers or schools; they can also be shaped by the design, rules and capabilities of the technologies they use. This makes filtering and monitoring an important part of the digital economy, with the market supplying tools that help determine the boundaries within which children can learn and use technology at school.

Monitoring and filtering systems appeared across nearly all school settings, although their design and visibility to children varied considerably. Most schools relied on some combination of content filtering (blocking specific sites, platforms or keywords) and active monitoring tools that flagged concerning activity to staff, such as Senso, Smoothwall or Homeprotect.

The children were sometimes aware that they were being watched in a general sense, even where they did not fully understand the mechanism. One child described being told that 'someone's watching' and that this made them feel safer because, as the researcher suggested, someone could 'check what you're doing and make sure it's okay' (P4, Year 3, Group 2, England), while another suggested that Senso worked through 'a little chip' embedded in the Chromebook that alerted the school if flagged content was accessed (P4, Year 4, Group 1, England).

These systems are intended to provide a protective layer around children's use of technology, but because they increasingly sit between children and the online world, they also shape what children can access, what gets flagged, and what schools are able to see.

When safeguarding blocks learning

A recurring tension that came through in the interviews was between the stated protective purpose of these systems and their practical effect on legitimate schoolwork. The children described searches being blocked for containing a flagged word even where the context was innocuous, for instance when researching the pros and cons of video games (S4, Year 9, Group 4, England), or when trying to access source links for a persuasive writing assignment (S3, Senior 4, Group 1, Scotland).

Notably, this was not only a pupil experience: one group observed that 'even teachers sometimes, when they try and, like, show a video, it just says blocked' (S5, Year 9, Group 3, England), and a Digital Media teacher in a secondary school in England (S1) described a lesson being disrupted when a course tool, Clipchamp, was automatically blocked during a planned workshop, requiring a switch to different software.

That both children and teachers found themselves locked out of things they judged necessary for legitimate educational purposes raises a question worth sitting with: who is actually setting the parameters of what counts as safe or appropriate, and on what basis, if the systems are restrictive enough to override the judgement of the adults nominally in charge of the classroom?

The technology in this example is not just enforcing a safeguarding decision made by a teacher; its underlying rules are becoming part of the decision-making process itself.

This question is sharpened by evidence that filtering did not always work in the other direction either. In one account, a child described a Computer Science lesson in which classmates searched for pornographic content and were not caught by the filter at all: 'they did not get caught, no, they got away with that, actually' (S5, Year 9, Group 2, England).

Taken alongside the examples of over-blocking, this suggests the filtering may be miscalibrated in both directions at once, restrictive enough to interfere with sanctioned use, yet permeable enough to fail at its core protective function.

This may say something about the limits of relying on filtering products alone to manage a school's duty of care.

Children finding ways around the system

Some children described actively working around these systems and did so with a degree of confidence. One child, when asked how they had games on a school Chromebook despite a ban, replied simply 'because we're not stupid', going on to note that while the App Store itself was blocked, 'there's, like, websites you can go on that the school doesn't know about' (S3, Senior 4, Group 1, Scotland). Another described using TikTok to view a film that had otherwise been made unavailable to them (S3, Senior 4, Group 1, Scotland).

This capacity to circumvent filtering, set against the same children's complaints about over-blocking of legitimate content, may suggest that they sometimes experience these systems less as a coherent safeguarding architecture and more as an inconsistent obstacle that a technically confident user can route around.

The important point here is not that children are finding ways around safety systems; it is that a system that can be readily bypassed while also blocking legitimate educational activity may be revealing a problem with the technology itself, rather than simply a problem with children's behaviour.

When the rules don't fit the classroom

Blanket bans on games sit oddly alongside the broader direction of EdTech, in which gamified tools are increasingly built into classroom learning. The children described platforms such as Blooket being blocked outright once flagged as a game, even though it had previously been used by teachers to run class activities, in one case a German language quiz (S4, Year 9, Group 2, England), while another group described Gimkit being blocked after a feature allowing children to host their own games was identified as a problem (S3, Senior 1, Group 1, Scotland).

A similar ambiguity arose around an internet safety game, which children recognised as 'educational', that was sometimes accessible and sometimes blocked depending on how it was reached (S4, Year 9, Group2 , England).

This suggests that filtering categories built around a simple game or not-game distinction may sit awkwardly against some curricula that lean more heavily on gamified formats.

What looks like a clear and consistent rule from the perspective of a filtering system can therefore become much less clear in the context of a classroom.

When the system gets it wrong

Flagging is another way in which commercial technology has become part of how schools manage children's online activity. Monitoring systems are designed to identify activity that their algorithms or predefined rules consider potentially concerning, and to bring this to the attention of school staff. This initial judgement depends on how the system has been designed and what it has been programmed to recognise. The examples from the children and teachers suggest that these decisions are not always straightforward, particularly when the same system is expected to distinguish between deliberate searches, accidental searches and ordinary classroom activity.

However, we found notification practices around monitoring also appeared inconsistent. In at least one school, the children were not notified in the moment when flagged; instead, a safeguarding lead received a screenshot and would follow up later, sometimes an hour or more afterward (P5, Interview, Computing/phase lead and class teacher, England).

The children in this school had been told in general terms that they were 'leaving footprints', although even the Computing/phase lead was uncertain about some of the system's underlying mechanics, noting they 'would expect' a history of clicks was being logged but that the system was still new enough that this remained 'a good question' (P5, Interview, Computing/phase lead and class teacher, England).

Flagging also did not appear to distinguish between deliberate searches and innocent mistakes. The Computing/phase lead described a case in which a child misspelled a word and an inappropriate image appeared as a result, leading to the child approaching staff unprompted to explain what had happened as it had not been their intention to write an inappropriate word (P5, Interview, Computing/phase lead and class teacher, England).

The same account raised an open question about whether repeated flagging of this kind risks making children more anxious about what they type, rather than more capable of navigating searches safely, since a spelling error and a deliberate search are treated identically by the system.

Monitoring beyond the classroom

Monitoring was also described as extending beyond the school premises. One younger child described monitoring as reassuring, stating that even at home, or 'far away', 'teachers can still see you' (P4, Year 3, Group 2, England); an older child described a similar always-on quality more warily, speculating that 'they', without specifying whether this meant teachers, the school or the monitoring software itself had 'probably got a tracker in your Chromebook', and expressing doubt when asked directly whether 'they' respected privacy (S3, Senior 4-6, Group 3, Scotland).

A separate account described a comparable always-on quality via Homeprotect, which blocked inappropriate content on a home laptop in the same way it would at school (P4, Year 4, Group 1, England).

Finally, several accounts described punitive consequences that extended well beyond the individual involved, such as an entire year group or school losing access to an app because one child had misused it (P4, Year 4, Group 2, England), or a child having their Chromebook withdrawn for the remainder of the year and being required to complete work on paper instead (P4, Year 4, Group 1, England).

The picture that emerges from these workshops is one of a gap between the stated aims of monitoring and filtering systems and their lived operation. The same tools that over-block legitimate schoolwork can fail to catch the content they were built to stop, the same devices that promise safety at school extend surveillance into the home in ways children only partly understand, and the same flagging systems that cannot distinguish a spelling error from a deliberate search can result in consequences, individual or collective, that outlast the moment of misuse.

The children's own attitudes toward this varied, from reassurance to wariness, but even where reassured, most could not say with precision who or what was watching, only that 'they' could.

Whether this arrangement serves the duty of care it is meant to uphold, or simply redistributes risk in less visible ways, is a question the data raises more clearly than it answers.

05.2

Data and commercial surveillance

As schools make greater use of digital platforms, children's learning increasingly generates data: what they search for, what they click on, how long they spend on a task, how many attempts they make and, in some cases, information about their location. Some of this data has a clear educational purpose. Teachers can use it to identify gaps in understanding, track progress or decide what needs to be taught again. However, when these activities occur on commercial platforms, questions arise about how data may be used beyond its immediate educational function.

This makes data an important part of the relationship between education and the digital economy. The issue is not simply that schools and platforms collect data, but that children may have little understanding of what is collected, who controls it, or how it may be used once it leaves the screen.

What happens to the children's data?

Where the monitoring and filtering theme concerns children's awareness of being watched, the data theme concerns something less visible to them again: what happens to the information platforms collect once it leaves the screen. In the groups where this prompt was discussed, most responded to the prompt 'I know what happens to my data when I use online learning platforms' with a thumbs down, and several groups returned a unanimous or near-unanimous 'no' (S3, Senior 4, Group 2, Senior 4-6, Group 3, Scotland; S4, Year 9, Groups 1 and 3, England).

Where the children did attempt an answer, their accounts suggest the concept of data flow was understood impressionistically rather than technically. Data was described as something that 'runs away', or as passing through an 'anonymous bot' on its way to Google or OneDrive before 'it comes up with the answer' (S2, Year 7, Group 1, England).

This may indicate that children are aware, at a general level, that their inputs are processed by unseen systems, without having a working model of who controls those systems or what happens to the data afterwards. One child in a different group reasoned, tentatively, that companies 'hold it, securely, but I don't know', before adding that once 'they have a data', scammers and hackers 'can do anything they want with it' (S4, Year 9, Group 1, England). The child's uncertainty seemed to be accompanied by a broad sense that control was lost once data left the user's hands.

Privacy policies

The reasons the children gave for not engaging with privacy policies were fairly consistent and appear to centre on perceived barriers such as length, readability and accessibility rather than simply a lack of interest. Terms and conditions were repeatedly described as too long or too small to read: 'they are always really small and I just can't be a*rsed to read it' (S2, Year 8, Group 3, England), and 'It's way too long' (S6, Year 11, Group 2, Northern Ireland).

One child's response, 'Who does?', to the researcher's question about reading terms and conditions was met with visible agreement from their peers (S2, Year 8, Group 3, England). One child in a separate group stated plainly that they had never read a privacy policy in their life (S6, Year 11, Group 2, Northern Ireland).

This may suggest that the design and accessibility of consent mechanisms contribute to disengagement, although we cannot determine whether this stems from barriers of comprehension, lack of interest or an assumption that adults manage these decisions.

The commercial data practices described in this section are driven by decisions made well above the level of the individual child, so accountability for managing them, from a child rights perspective, should sit with those who design, procure and regulate these platforms, not with children themselves.

What do children think the risk is?

A related thread in the findings concerns where children locate trust, which may help explain the low levels of engagement with terms and conditions. In one group, when asked whether they were careful about what they typed into search engines or platforms while doing homework, one child answered plainly, 'No, I'm just putting in anything', and when pressed, 'I trust myself' (S2, Year 8, Group 2, England).

Where the children did articulate a risk, it tended to be framed around individual bad actors rather than the commercial data economy itself. Where risks were mentioned, they often involved hacking – 'If you forgot to save your files and stuff, they can go into their laptop or hack in your accounts and stuff' (S2, Year 7, Group 1, England) – malware, and, in two separate groups, the 'black market' as the imagined destination for leaked data (S4, Year 9, Group 3, England; S6, Year 11, Group 2, Northern Ireland).

In one of these exchanges, the researcher's own follow-up gently underlined this gap – 'On the black market, or you mean in the regular market?' (S4, Year 9, Group 3, England) – a distinction the child's answer did not take up.

This suggests that where children do have a mental model of data risk, it may be oriented towards criminal misuse rather than the broader commercial data practices associated with many digital platforms, such as advertising, profiling or third party data sharing, practices that operate largely in the open rather than on any black market, although this remains a tentative reading given the small number of groups that raised the topic unprompted.

In one group discussing the platform Reading Plus, one child mentioned in passing that the app 'tells you where they are, where you are', a comment that visibly startled several peers, 'Wait, it tells our location?' (S5, Year 9, Group 3, England). It was only once the researcher confirmed the point – 'it can be, it can be one of the things that they take, yeah' – that the group reacted with audible shock.

This remains a single exchange and should be treated as illustrative rather than representative, but it suggests that a concrete, named disclosure can provoke a stronger reaction than the abstract idea of 'data'.

School data governance

While the children's uncertainty centred on what happened after data left the screen, adult interviews highlighted a related institutional issue: who within schools is responsible for governing these data flows. A school online safety advisor in England linked weak data governance to resourcing and prioritisation rather than to platform design alone, observing that privately funded settings may be more likely to have dedicated digital strategy roles, and arguing that GDPR compliance 'needs to be led and it needs to be a priority'.

The same interviewee suggested that 'There isn't any government Ofsted focus. So there's no requirement in a school to have an EdTech strategy', and described the resulting market as containing 'shoddy top tech' that 'is not quality assured properly because it's not a priority'.

This may point to a gap between the scale of data collection described by the children and the degree of institutional attention it receives, although this chapter draws on a small number of adult interviews, and the pattern should be tested against the fuller staff sample before being generalised.

Commercial or pedagogical?

It was evident that not all data collection experienced by the children was commercial, and not all data collection was viewed negatively. Some data can have an obvious and immediate educational purpose: tracking time spent on a task, recording attempts or identifying areas where a class may need further teaching. The children and teachers could see the value in this kind of data, particularly where it helped teachers understand how children were progressing or where additional support might be needed.

Teachers, for their part, largely described this data in terms of workload reduction and pedagogical insight rather than commercial exchange. One teacher noted that a platform 'analyses it for me' and identifies class-wide weaknesses to re-teach (S2, Interview, assistant headteacher and Geography teacher, England).

The distinction between commercial and pedagogical purposes becomes less clear when educational activities take place on commercial platforms. Data may be collected because it is necessary to deliver an educational function, yet that same information can also hold value within the wider commercial ecosystem in which a company operates. As a result, children may experience data collection simply as part of learning, while the company may have additional interests in collecting, processing or retaining information about their activity. Where these educational and commercial purposes exist alongside one another, the commercial dimension of data collection can be obscured by the platform's immediate pedagogical utility, making it difficult for children and schools to identify clearly where educational data practices end and commercial interests begin.

Conclusion

This chapter has shown that commercial technologies are becoming embedded in education in ways that extend beyond their immediate use as teaching and learning tools. Advertising is entering the classroom through general purpose and freemium platforms, while additional features and protections are often placed behind paywalls. This raises questions about whether children's experiences and protection in educational settings increasingly depend on what schools can afford. At the same time, schools are relying on commercial monitoring and filtering software that can block legitimate learning while allowing inappropriate content through. Such decisions are being shaped by the design, rules and assumptions built into these commercial products. Importantly, the chapter shows that school identities are being shaped by Big Tech, while the availability and design of technologies can influence what and how schools teach.

Taken together, these findings point to a wider question about who and what is shaping education. **Is the current education landscape being shaped by long-established values around the importance of child-centred, inclusive, child rights-informed and democratic education, or are the profit-seeking values of 'Big Tech' and the market as a whole taking over?**[80]

06



Children's rights and calls for change



FIGURE 10
Children's calls for change
(S1, Level1, Group2, England)

One change would be avoiding websites that don't gain anything, so that aren't useful basically for learning

S3, SENIOR 4-6, GROUP 1, SCOTLAND

06.1

How does EdTech impact on children's rights?

The use of EdTech raises questions that extend beyond whether technology works. Across the project, the children and teachers described how digital technologies can shape children's access to education, participation in school life, relationships with teachers and peers, privacy and safety, and the choices available to them. We need to examine not only whether EdTech is available, but whose needs it serves, how it is designed, who controls it, and what children experience when they use it.

The implications are not that EdTech is inherently beneficial or harmful. Rather, the question is what technology is for, what conditions are needed for it to support children's rights, and what safeguards are needed where it does not. **Across the project, the children and teachers repeatedly pointed towards a similar principle: technology should support children's education and development, rather than education being reorganised around the capabilities, limitations or commercial interests of technology.**[81]

Right to education

The right to education concerns children's opportunity to receive an education that supports their development and enables them to fulfil their potential. In the context of EdTech, this means considering whether the technologies used in education contribute to meaningful learning in addition to providing them materials with which to learn.

The children and teachers described technologies that could support revision, provide additional explanations, organise schoolwork and enable children to work more independently. However, their accounts also demonstrated that digital activity is not necessarily educationally valuable simply because it is digital. A platform may increase the amount of work completed without improving understanding, or make an activity more efficient without making it more educationally meaningful.

This prompts reflection about what is being displaced when technology is introduced. Where platforms determine the pace of work, narrow the forms in which children can demonstrate knowledge or encourage completion as the primary measure of success, there is a risk that educational aims become subordinate to the requirements of the system. The assessment of what works should not be whether children engage with technology, but whether the technology enables the kinds of thinking, practice, feedback and development that education is intended to provide.

The right to education also encompasses the relationships and professional expertise that make learning possible. Teachers described the importance of understanding individual children and adapting teaching accordingly. Technology can provide information or automate aspects of educational work, but it cannot necessarily replicate the judgement involved in deciding when a child needs explanation, encouragement, challenge or a different approach. This forces us to question the supposed 'personalising' benefits of EdTech and AI in education.

EdTech should be used as a tool to supplement, not replace, teaching, and should go hand in hand with sound pedagogy and ongoing teacher training, to ensure the tools used contribute to the education and development of children in ways that allow them to reach their full potential. The fact that a platform can perform a task does not establish that it is the best way of achieving the educational purpose behind that task.



What children and teachers want to change

The children want schools to be more selective about the technologies they use and to prioritise educational value over the availability or popularity of particular products. They want schools to stop using technologies that do not contribute meaningfully to learning: 'One change would be avoiding websites that don't gain anything, so that aren't useful basically for learning' (S3, Senior 4-6, Group 1, Scotland).

Some children went further, calling for particular technologies to be removed: 'Can we just start a petition about getting rid of Reading Plus?' (S5, Year 9, Group 1, England). They also want technology to reflect what they are actually being taught: 'On Seneca, they're literally giving you stuff that you haven't learned' (S2, Year 7, Group 2, England).

The children want EdTech that is useful, easy to navigate, interactive, straightforward, simple, organised, accurate and accessible. They particularly value platforms where homework, timetables and deadlines can be viewed clearly in one place. They find it useful when different functions are brought together rather than requiring them to navigate multiple platforms: 'I find GO 4 Schools most helpful because you can see your homework and your timetable' (S4, Year 9, Group 2, England).

They also want searching for information and schoolwork to be easier. In Google Classroom, one child suggested adding a search function so: 'they [could] search for a specific subject. Because sometimes I have, like, three maths classes. I don't know which one that is' (S6, Year 11, Group 2, Northern Ireland).

The children want feedback to help them understand and improve, rather than simply indicate whether an answer was right or wrong. They also want more meaningful forms of practice, including questions that reflect the kinds of tasks they will encounter in examinations, and greater variety rather than repetitive activities. They want systems to be less rigid about punctuation, spacing and capitalisation where these requirements do not reflect the substance of their answers.

Right to
inclusion and non-discrimination

The right to inclusion requires attention to the different circumstances in which children experience education. The project demonstrated that EdTech can both reduce and reproduce inequalities.

The children's experiences varied according to the devices available to them, their internet access, the software they could use, their digital confidence and the support available at home and in school. These differences mean that the same platform can create very different educational experiences for different children.

Inclusion is also affected by design. Technologies that assume children can work at the same speed, use a particular device, navigate complex interfaces or respond in a particular format may disadvantage children whose circumstances or needs differ from those assumptions. The problem is therefore not necessarily a lack of access to technology, but a lack of flexibility within the technology.

This is particularly important where digital systems become compulsory. When there is no realistic alternative to completing homework, accessing information or participating in an activity through a particular platform, limitations in the platform can become limitations on children's participation in education.

The project also highlighted the importance of recognising that children are not a homogeneous group of technology users. Regular use of digital devices does not mean that every child has the same digital skills, confidence or resources. A rights-based approach must therefore consider the diversity of children from the point at which technology is selected and designed.



What children and teachers want to change

The children want reliable infrastructure and technology that they can actually use:

> I'll get rid of the boards [referring to smartboards] because half the time they're glitching and the cables are really loose in there and they keep falling out. So you can't actually do the work. S5, Year 10, Group 3, England

They also described the consequences of unreliable connectivity: 'The internet just doesn't work in our classroom... It's a waste of time, you can't get onto it' (S6, Year 11, Group 2, Northern Ireland).

The children want alternatives where digital access creates difficulties, including the ability to complete homework on paper: 'I liked homework better when it was on paper ... because it's like kind of a less workload, and you can just do it whenever, not just on a computer' (S4, Year 9, Group 3, England).

They also want technology to work across the devices the children actually have access to, rather than assuming access to a laptop or school computer. They described situations in which homework could not be completed effectively on a phone and school computers were not available at the times they needed them.

Right to
protection from harm

EdTech creates new environments in which children can encounter risks, but it also changes how existing risks are managed. The project highlighted tensions between protection and access, particularly in relation to filtering and monitoring.

Filtering systems are intended to prevent children from encountering harmful material, but the children and teachers described circumstances in which legitimate educational information was blocked while inappropriate content could still be accessible. This demonstrates that protection cannot be assessed simply by the existence or strictness of a filtering system.

The design of EdTech can also contribute to children's experiences of stress or discomfort. Timers, notifications, competitive features and behaviour management systems can influence children's emotional experience of school. These effects are particularly important where children have little control over whether or how the systems are used.

Protection also extends beyond content, for example where leaderboards and 'swapping' points fed into bullying and arguments or where issues were raised relating the practical safety of devices when they are taken outside school. This illustrates the importance of understanding EdTech within children's wider lives rather than treating online safety as a problem that can be solved through software alone.

What children and teachers want to change

The children want online environments to contain less harmful and age-inappropriate content. They call for action to: 'ban YouTube ads, brain rot and AI slop' (S1, Level 1, Group 1, England). A primary school-age child similarly called for online spaces to be designed so that children are exposed to content appropriate for their age rather than material intended for adults (P3, Year5, Group3, England).

The children also want filtering to strike a better balance between restricting harmful material and allowing access to legitimate educational resources.

Right to
participation and to access information

Digital systems increasingly influence the information available to children and the way in which that information is presented. This gives EdTech companies, platforms and schools significant influence over children's information environments.

The children raised concerns about their ability to understand what they encounter online, particularly as AI-generated content becomes increasingly difficult to distinguish from material created by people. This creates a need not only to protect children from misinformation, but to equip them to navigate increasingly complex information environments. Schools play an important role in equipping children with these skills.

The right to access information is also connected to children's ability to understand the systems that affect them.

Participation is therefore not simply about giving children a feedback form. It concerns whether children have a meaningful opportunity to influence decisions about technologies that shape their education. The children repeatedly demonstrated that they are capable of identifying design problems, questioning assumptions and proposing practical alternatives.

What children and teachers want to change

The children want greater involvement in decisions about EdTech. One child explained: 'No one talks about this. It's just there' (S5, Year 10, Group 3, England). Another described frustration that decisions were often based on teachers' preferences rather than students' experiences:

> I always feel like they never really change stuff and they always keep it the same. And if they do change things, they always base it off what teachers want, and not what the students want... - S5, Year 10, Group 2, England

The children also want AI-generated material to be clearly identified so that they can: 'tell fake information from real information' (S3, Senior 4-6, Group 1, Scotland). They want meaningful choice over AI features, including the ability to switch them off: '[I want] less use of AI, like choice, like, to actually turn it off ... override the default' (S1, Levels 2 and 3, Group 2, England).

Right to privacy

EdTech can make children's educational activity considerably more visible. Information about what children do, how long they spend on tasks, what they achieve and how they interact with platforms can be recorded and analysed in ways that were not possible with many traditional educational practices.

This data can have legitimate educational purposes. Teachers may use it to identify difficulties, monitor progress or provide additional support. However, this usefulness should be harnessed in a way proportional to children's right to privacy, and compliant with existing regulations such as General Data Protection Regulation (GDPR) and the Age Appropriate Design Code.[82]

The children's accounts suggest that they do not always have a clear understanding of what information is collected about them, who can access it or how it may be used. They also sometimes feel uneasy about the amount of tracking they experience. This creates a significant imbalance between the visibility of children to digital systems and children's visibility into those systems.

Privacy therefore requires more than compliance with formal requirements. Children need to be able to understand, at an appropriate level, what is happening to information about them and why.



What children and teachers want to change

The children want greater transparency about monitoring and data collection. One child's response captured the strength of this concern: 'Stop stealing people's data' (S1, Level 1, Group 2, England). They want clearer explanations of what happens to information collected through educational platforms and greater transparency about who can access it. Children may know, to an extent, that an app monitors their activity, uses AI or restricts particular content without understanding why those decisions are made. Where systems are opaque, children have limited ability to question or make decisions affecting them.

Right to protection from commercial exploitation

The commercial nature of EdTech draws attention to what might happen when educational environments overlap with commercial ones. Children may encounter advertising, subscriptions, paywalls and commercial data practices through technologies that they have little choice about using.

This creates a particular concern because children are not simply consumers choosing whether to purchase a product. In many cases, the technology is selected by a school, local authority or other institution, while children experience the consequences of the commercial model.

Where important functionality is placed behind a paywall, children's educational experiences can differ according to what their school or family can afford. Similarly, advertising within services used by children for educational purposes can introduce commercial incentives into spaces where children may reasonably expect education to be the primary purpose.



What children and teachers want to change

The children want educational technologies without additional charges: 'free, [where you] don't have to pay for things' (S6, Year 11, Group 1, Northern Ireland). One child specifically called for Canva to: 'Make it so students get all things for free and more variety and creativity, unlike [how] it is now locked by a paywall' (S6, Year 11, Group 1, Northern Ireland).

Children and teachers also want advertising removed from educational environments, particularly advertising they consider inappropriate for children.

Best interests of the child

The best interests of the child provides an overarching principle for considering the issues raised across this report. It asks whether decisions affecting children are made with their rights, needs and development as a primary consideration.[83]

This is particularly important in EdTech because decisions are often made at a distance from the children who experience their consequences. A teacher may choose a product because of the networking or opportunities the company provides. A school may purchase a platform because it offers efficiencies for staff. A company may introduce a feature because it supports a particular business model. A policymaker may promote a technology because it appears innovative or offers a solution to a recognised problem. None of these considerations necessarily establish that the resulting experience is in children's best interests.

The project therefore queries how interests are identified, and whose interests count. Children's educational and developmental interests may overlap with those of teachers, schools and technology providers, but they are not always identical. A feature that saves teachers time may create additional work for children. A system that makes behaviour easier to monitor may make children feel more closely watched. A commercially sustainable product may introduce advertising or paywalls. An AI feature may be useful to a platform while being unwanted by children.

The best interests principle also requires attention to the cumulative effects of decisions. A single notification, timer or data collection practice may appear minor, but when children encounter multiple systems that monitor, prompt, rank, restrict and direct them throughout the school day, the combined experience can substantially shape their educational environment.

This means that the best interests of the child should not be considered only after decisions have been made; it should inform decisions from the outset. Before adopting a technology, schools and other decision-makers should be able to explain what benefit it is expected to provide to children, what risks or disadvantages it may create, whose interests may conflict, and how children's views have informed the decision.



What children and teachers want to change

The children want schools to choose EdTech according to whether it genuinely benefits children rather than assuming that more technology is necessarily better. They also want children to have a greater role in decisions about what technologies are introduced and retained.

Importantly, the children did not describe their preferred future as one without technology. They identified circumstances in which technology could enable more collaborative and enjoyable forms of learning that enabled connection. As two children put it: 'Group projects' and 'being able to work with your friends would be a lot better' (S4, Year 9, Group 3, England). Another child similarly explained: 'I basically wrote that I like technology, because of the group work' (S5, Year 9, Group 1, England).

In these it is apparent that children's concerns are not about technology replacing human interaction. Rather, the children valued technology when it helped create opportunities for interaction, collaboration and richer forms of learning, that is, when it is used genuinely to enhance the educational experience, not just modify it.

The overarching principle emerging from this project is not that education should become more or less digital; it is that technology should serve children's education and development, rather than children being required to adapt themselves to the technology.



Conclusion and recommendations

The children who contributed to this research were clear that **its value depends on how it is designed, introduced and used. They want technology that genuinely helps them learn, gives them greater choice and agency, works for everyone, and protects their wellbeing and rights.**

They also want to be heard: not simply as users of EdTech, but as people with valuable expertise about how it affects their everyday lives.

We conclude this report by drawing on children's and teachers' accounts, experiences and calls for change to answer a simple, but vital, question: **What does good EdTech look like?**

What does good EdTech look like?

Right to education

Rights-respecting EdTech should begin with a valuable educational purpose and a clear understanding of what children are expected to learn. Technology should be introduced only where it adds educational value, rather than because a digital equivalent to an existing activity is available.

Good EdTech should complement teachers' professional judgement, provide meaningful opportunities for learning, and allow children to develop understanding rather than simply complete tasks. It should also recognise when technology is not the most appropriate approach.[84]

This means that schools should be able to explain not only what a technology does, but why it is educationally appropriate for the particular subject, activity and children using it. Where this proves difficult to do, it is valid to question whether the technology should be used at all.

Right to inclusion and non-discrimination

Inclusive EdTech should be designed around variation and diversity rather than an assumed standard user. Schools and providers should consider device compatibility, connectivity, accessibility, additional needs and differences in digital confidence before making technology a requirement.

Inclusion may sometimes mean providing additional digital support, but it may also mean providing a non-digital alternative. A paper-based option, physical book or face-to-face approach should not automatically be treated as a failure to modernise where it provides a more equitable way for a child to participate.

Schools should also recognise that digital inclusion is not achieved simply by providing a device. Children may need appropriate software, reliable connectivity, accessible design, support and sufficient opportunity to use the technology effectively.

Right to protection from harm

Effective protection should be proportionate, responsive and based on the risks children actually encounter. Filtering should be evaluated in terms of both what it prevents and what it unnecessarily restricts.

Protection should also work alongside children's other rights. Keeping children safe should not require unnecessary restrictions on their access to information, education or participation. Where monitoring or filtering is used, its purpose, operation and limitations should be sufficiently transparent to those affected.

Safeguarding should also account for the cumulative experience of using multiple digital systems. Children's wellbeing may be affected not by a single feature in isolation, but by the combined effect of systems that continually prompt, monitor, rank or direct them.

Right to information and participation

Children should be able to understand the digital environments in which they learn, and have meaningful opportunities to influence them. Information about EdTech should be presented in ways that children can understand, including information about AI-generated content and the operation of systems that affect them.

Participation should take place before, during and after implementation. Children should be able to identify problems, contribute to decisions about change and receive an explanation where their views cannot be acted on.

Meaningful participation should also have consequences. Asking children for their views without creating a realistic possibility of change risks turning participation into a procedural exercise rather than an exercise of children's rights.

Right to privacy

Children's data should be collected and used only where there is a clear and legitimate purpose, and the extent of collection should be proportionate to that purpose.

Schools and providers should explain monitoring and data collection in language children can understand. Children should know what is being monitored, why it is being monitored and, where appropriate, who can access the information.

The educational usefulness of data should not be treated as sufficient justification for collecting more information than is necessary. Schools and providers should also consider how the accumulation of data about children's educational activity may affect their sense of privacy and autonomy over time.

Right to protection from commercial exploitation

Schools should consider the full commercial model of an EdTech product when making procurement decisions. A product should not be considered suitable simply because its basic version is free.

This means considering advertising, subscriptions, paywalls, premium features, data practices and the possibility that children may be encouraged to make purchases. Educational access should not depend on children's ability to pay or their family's willingness to purchase additional functionality.

Commercial considerations should also be separated from educational judgements. A product's financial sustainability or popularity should not, by itself, determine whether it is appropriate, let alone beneficial, for children.

Best interests of the child

The best interests of the child should provide a starting point for EdTech decisions rather than a conclusion reached after a product has already been selected. Schools, policymakers and companies should be able to demonstrate why a technology is expected to benefit children and how potential disadvantages have been identified and addressed.

This requires consideration of the whole educational experience, as well as children's experiences beyond school and education, rather than the performance of an individual product. It means asking whether technology supports children's rights, relationships, development, agency, participation and wellbeing, as well as whether it achieves its immediate educational purpose.

It also requires recognising that children's interests may sometimes require less technology, a different technology or no technology at all. The appropriate question is not whether a school is making sufficient use of digital tools, but whether the tools it uses contribute to the education and development children are entitled to receive.

Children's participation is central to this process. Children are not simply the recipients of EdTech decisions; they are among those most directly affected by them. Their experiences can reveal problems that are not visible through procurement criteria, technical specifications or measures of platform engagement.

A best interests approach therefore requires decision-makers to ask, before and during the use of EdTech: What is this technology intended to achieve for children? What evidence is there that it does so? What risks or disadvantages does it create? Whose interests might conflict? And what do children themselves say about the experience?

Policymakers can begin to respond to these questions by mandating child rights impact assessments (CRIA),[85] especially for major decisions that affect the sector (e.g. reliance on Google or Microsoft or when introducing AI into UK education).[86]

The calls to action that follow bring together what children told us they would like to see change alongside the questions their experiences raise for policymakers. Together, they point towards an EdTech system that puts children's learning, participation, inclusion, safety and best interests at its centre.

10 recommendations from children

1 **Voice** – a voice in decisions about EdTech. Children should be meaningfully involved in decisions about the tools they use.

2 **Educational purpose** – EdTech that genuinely supports learning. Schools should procure, and industry should design, tools that support children's learning, inclusion, wellbeing, privacy, safety and best interests.

3 **Inclusion** – Reliable and inclusive access. Ensure working devices, sufficiently fast and reliable internet and access to educational content, while providing alternatives where digital access is a barrier.

4 **Usability** – Better-designed tools. Make EdTech simpler, easier to navigate, accessible across devices, less repetitive and more responsive to evidence about how children actually learn.

5 **Supports learning** – Useful, supportive feedback. Provide clear explanations and opportunities to learn, rather than simply marking answers right or wrong.

6 **Collaboration** – More choice and collaboration. Enable children to work creatively with peers and have flexibility in how and when they use technology.

7 **Agency** – AI that supports, rather than replaces, children and teachers. Give children choice over AI, improve its quality, and ensure teachers remain central to learning.

8 **Safety** – Safer and more transparent digital spaces. Protect children from harmful content, clearly label AI-generated content, and be transparent about data collection and monitoring.

9 **Non-commercial** – Less commercial pressure and incentives. Remove unnecessary paywalls, inappropriate advertising and practices that pressure children or their families to pay.

10 **Wellbeing** – Technology that supports wellbeing. Design gamification, notifications, timers and behaviour-tracking features that respect children's wellbeing, inclusion and individual needs.

Questions for policymakers

The calls for change from children raise important questions for policymakers. Children are asking for a greater say in decisions about the technology they use, EdTech that demonstrably supports learning, and digital environments that are inclusive, safe and designed around their needs. They want the benefits of technology without unnecessary stress, surveillance, commercial pressure or loss of agency.

These calls invite policymakers to consider what protections, standards and expectations are needed as EdTech becomes increasingly embedded in children's education. They also raise questions about how policy can ensure that innovation in areas such as AI advances rather than infringes children's rights, wellbeing and the human relationships at the heart of education.

The questions below are intended to support that discussion:

1. **How can children have a meaningful voice in decisions about the EdTech that affects them?**
2. **What evidence-based standards should EdTech meet before it is used in schools?**
3. **How can policy ensure that digital learning improves educational outcomes and how can schools be supported to procure EdTech that benefits children while not displacing valuable non-digital activities?**
4. **How should EdTech be regulated to protect children's privacy, agency and wellbeing?**
5. **How can policymakers ensure AI is used safely and transparently to deliver proven benefits, while protecting the human role of teachers and avoiding unintended trade-offs?**
6. **What safeguards are needed to prevent harmful profiling, monitoring and labelling of children?**
7. **How can children be better protected from harmful, inappropriate and AI-generated content online?**
8. **How can policymakers address unequal access to devices, connectivity and digital features across schools and communities?**
9. **What limits or guidance are needed around gamification, notifications and other features that can affect children's wellbeing?**
10. **How can children's experiences of EdTech be better understood across different schools, regions and communities?**

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Appendix 1

Methodology

This report draws on data collected from the first phase of the Better EdTech Futures for Children project, an ongoing UK-based multimethod, multiphased study that aims to explore the impact of EdTech on children's learning and rights and stimulate a national conversation. This section provides an overview of the first phase of the study, which uses a qualitative approach to data collection through child consultation workshops and semi-structured teacher interviews, as detailed below.[87]

Child participatory design

Underpinned by their right to be heard on all matters that affect them and for their views to be given due weight (UNCRC, Article 12), participatory workshops were designed to consult children on their own uses of EdTech and AI for schoolwork and homework, and their perspectives on how EdTech can be improved to benefit their learning and rights. Children were informed that their participation and insights would be used to inform a national discussion on what 'good' EdTech looks like.

Children were central to the study, both as participants and as advisors. Fourteen 13- to 18-year-olds who attend school in England, Northern Ireland and Scotland sat on the EdTech youth advisory board (EYAB), providing diverse perspectives, experiences and ideas that shaped the project design and analysis. The EYAB met with the research team every quarter and supported the team in designing and developing questions, reviewing workshop materials, and thinking through and analysing the study findings. They further participated in a range of dissemination activities and events.

Participant recruitment

Participant recruitment took a purposive and systematic approach, with the team recruiting to achieve a balance of primary and secondary schools across all four UK nations, in rural and urban areas. Special consideration was given to child diversity, including ethnic, socioeconomic and gender diversity, as well as children with special educational needs and disabilities (SEND) and English as an additional language (EAL).

In every school, child consultations were supplemented by at least one interview with an education professional.

An overview of child and adult participants, as well as the details of each child consultation, can be found in Appendix 2 and Appendix 3 respectively.

Data collection

Between October and December 2025, researchers visited schools from across the UK and conducted voice-recorded child consultations with 454 pupils (primary, n=206; secondary, n=248) in five primary (England, n=4; Wales, n=1) and six secondary (England, n=4; Northern Ireland, n=1; Scotland, n=1) schools (see Appendix 2). Workshop plans were designed for the different age groups. Primary school children (aged 6-11) participated in a range of activities including a magic bag activity where they picked images of EdTech logos or devices from a bag, discussed how they used this device or app with the group, then placed all the images on a large poster and discussed what they liked or disliked about them with the aid of happy and sad face stickers. Other methods included drawing and visual vignettes.

Discussions with secondary school children (aged 11-18) were also supported through a range of participatory methods, including writing down the devices and apps they use for schoolwork or homework on sticky notes, using happy or sad face stickers to indicate which they liked the most or least, and drawing screenshots of apps they use, writing down the features they liked or disliked about each app. Other activities included reading out statements related to children's rights and EdTech and asking children to signify whether they agree with the statements and why, and writing down the aspects of EdTech they would like to keep and those they would like to change.

Researchers conducted in-person, semi-structured, voice-recorded interviews with teachers and headteachers (n=20), as well as one online semi-structured interview via Microsoft Teams with an online safety advisor for schools in England (see Appendix 2). These interviews were designed to gain teachers' perspectives on EdTech used with children, including how they use these apps and devices with pupils, their insights into the benefits and harms they pose for children's learning and rights, whether they support certain elements of learning over others, and what sort of guidance might help them navigate the ever-advancing field of EdTech and support them to use EdTech with children.

Data analysis

Data from child consultations and semi-structured teacher interviews were transferred from LSE OneDrive to a secure Autotekst system, powered by Whisper from OpenAI, which is stored on servers that do not allow AI to gain access to the children's data. The recordings were deleted from the Autotekst system as soon as transcriptions were generated. AI-generated transcripts were then stored on the LSE OneDrive, reviewed, cleaned and anonymised by three research assistants. The anonymised transcripts were, in turn, analysed in NVivo using thematic analysis.

Ethics

The research project was approved by the London School of Economics and Political Science (LSE) Ethics Committee (ref 588505). Teachers, children and their parents were provided with information sheets and consent forms before any school visits took place. Schools with opt-out policies were provided with opt-out forms. During child consultation workshops, researchers explained the project to children in a child-friendly way, informing them of their rights to confidentiality and anonymity, the voluntary nature of the research, and their right to withdraw consent at any time. Children were given opportunities to ask questions and voice their concerns, and were asked to write their names down on self-adhesive name badges to signify their consent to participate. Those who did not consent were given the option to remain seated or leave the group. Throughout, researchers remained attuned to children's ongoing consent. [88]

Appendix 2

Child and teacher participants

School pseudonym	Location	# Children	# Workshops	Year groups	#Teachers	Teacher role
Primary 1 (P1)	Southeast Wales	58	6	Year 5, Year 6	1	Headteacher
Primary 2 (P2)	London	19	4	Year 3, Year 6	1	Year 6 teacher and head of Digital Strategy
Primary 3 (P3)	Kent	30	5	Year 2, Year 5	1	Year 5 teacher and PSHE lead
Primary 4 (P4)	London	64	6	Year 3, Year 4	1	Curriculum lead
Primary 5 (P5)	London	35	4	Year 3, Year 4, Year 5, Year 6	2	Computing/ phase lead and class teacher English lead
Secondary 1 (S1)	London	27	4	Level 1, Level 2, Level 3	1	Digital media teacher
Secondary 2 (S2)	Leicestershire	43	6	Year 7, Year 8	2	Assistant headteacher and Geography teacher Computer Science teacher
Secondary 3 (S3)	Southeast Scotland	61	7	Senior 1, Senior 4, Senior 5, Senior 6	4	Principal teacher of Technologies Principal teacher of Digital Head of Science Academic headteacher
Secondary 4 (S4)	Essex	29	4	Year 9	4	English teacher Maths lead teacher Deputy headteacher KS4 Science coordinator
Secondary 5 (S5)	Kent	57	6	Year 9, Year 10	1	Dance teacher
Secondary 6 (S6)	Belfast	31	4	Year 10, Year 11	2	ICT coordinator Head of ICT
–	England	–	–	–	1	Online safety advisor for schools in England
TOTAL		**454** children	**56** workshops		**21** teachers	

Appendix 3

Child consultations conducted

School pseudonym	Year	Group	#Children	Location	Group name
Primary 1 (P1)	Year 5	Group 1	10	Wales	P1, Year 5, Group 1, Wales
	Year 5	Group 2	10	Wales	P1, Year 5, Group 2, Wales
	Year 5	Group 3	11	Wales	P1, Year 5, Group 3, Wales
	Year 6	Group 1	10	Wales	P1, Year 6, Group 1, Wales
	Year 6	Group 2	8	Wales	P1, Year 6, Group 2, Wales
	Year 6	Group 3	9	Wales	P1, Year 6, Group 3, Wales
Primary 2 (P2)	Year 3	Group 1	5	England	P2, Year 3, Group 1, England
	Year 3	Group 2	5	England	P2, Year 3, Group 2, England
	Year 6	Group 1	4	England	P2, Year 6, Group 1, England
	Year 6	Group 2	5	England	P2, Year 6, Group 2, England
Primary 3 (P3)	Year 2	Group 1	5	England	P3, Year 2, Group1, England
	Year 2	Group 2	4	England	P3, Year 2, Group 2, England
	Year 5	Group 1	7	England	P3, Year 5, Group 1, England
	Year 5	Group 2	7	England	P3, Year 5, Group 2, England
	Year 5	Group 3	7	England	P3, Year 5, Group 3, England
Primary 4 (P4)	Year 3	Group 1	10	England	P4, Year 3, Group 1, England
	Year 3	Group 2	11	England	P4, Year 3, Group 2, England
	Year 3	Group 3	11	England	P4, Year 3, Group 3, England
	Year 4	Group 1	11	England	P4, Year 4, Group 1, England
	Year 4	Group 2	11	England	P4, Year 4, Group 2, England
	Year 4	Group 3	10	England	P4, Year 4, Group 3, England
Primary 5 (P5)	Year 3	-	8	England	P5, Year 3, England
	Year 4	-	8	England	P5, Year 4, England
	Year 5	-	9	England	P5, Year 5, England
	Year 6	-	10	England	P5, Year 6, England
Secondary 1 (S1)	Levels 2 and 3	Group 1	5	England	S1, Levels 2 and 3, Group 1, England
	Levels 2 and 3	Group 2	9	England	S1, Levels 2 and 3, Group 2, England
	Level 1	Group 1	6	England	S1, Level 1, Group 1, England
	Level 1	Group 2	7	England	S1, Level 1, Group 2, England
Secondary 2 (S2)	Year 7	Group 1	7	England	S2, Year 7, Group 1, England
	Year 7	Group 2	7	England	S2, Year 7, Group 2, England
	Year 7	Group 3	8	England	S2, Year 7, Group 3, England
	Year 8	Group 1	7	England	S2, Year 8, Group 1, England
	Year 8	Group 2	7	England	S2, Year 8, Group 2, England
	Year 8	Group 3	7	England	S2, Year 8, Group 3, England
Secondary 3 (S3)	Senior 1	Group 1	10	Scotland	S3, Senior 1, Group 1, Scotland
	Senior 1	Group 2	10	Scotland	S3, Senior 1, Group 2, Scotland
	Senior 4	Group 1	8	Scotland	S3, Senior 4, Group 1, Scotland
	Senior 4	Group 2	8	Scotland	S3, Senior 4, Group 2, Scotland
	Senior 4-6	Group 1	10	Scotland	S3, Senior 4-6, Group 1, Scotland
	Senior 4-6	Group 2	8	Scotland	S3, Senior 4-6, Group 2, Scotland
	Senior 4-6	Group 3	7	Scotland	S3, Senior 4-6, Group 3, Scotland
Secondary 4 (S4)	Year 9	Group 1	7	England	S4, Year 9, Group 1, England
	Year 9	Group 2	7	England	S4, Year 9, Group 2, England
	Year 9	Group 3	7	England	S4, Year 9, Group 3, England
	Year 9	Group 4	8	England	S4, Year 9, Group 4, England
Secondary 5 (S5)	Year 9	Group 1	9	England	S5, Year 9, Group 1, England
	Year 9	Group 2	8	England	S5, Year 9, Group 2, England
	Year 9	Group 3	10	England	S5, Year 9, Group 3, England
	Year 10	Group 1	10	England	S5, Year 10, Group 1, England
	Year 10	Group 2	10	England	S5, Year 10, Group 2, England
	Year 10	Group 3	10	England	S5, Year 10, Group 3, England
Secondary 6 (S6)	Year 10	Group 1	7	Northern Ireland	S6, Year 10, Group 1, Northern Ireland
	Year 10	Group 2	8	Northern Ireland	S6, Year 10, Group 2, Northern Ireland
	Year 11	Group 1	8	Northern Ireland	S6, Year 11, Group 1, Northern Ireland
	Year 11	Group 2	8	Northern Ireland	S6, Year 11, Group 2, Northern Ireland

Appendix 4

School profiles

Secondary 1 (S1)

A charity school in England for less than 100 students aged 16+. The school mainly caters for students who are outside mainstream education for a range of reasons, with the majority having some learning needs, including dyslexia, autism, selective mutism, developmental language disorders, emotional regulation difficulties, English as a second language (ESL) and/or ADHD. Sixth form students aged 16-18 participated in this study, including students from diverse ethnic groups. Teachers and teaching assistants actively supported students' participation in the workshops, especially students with special educational needs and disabilities (SEND).

Technology use is adapted to meet individual student needs. Many apps have read-aloud functions to assist students with reading difficulties. Sensory sensitivities are accommodated by allowing headphones or noise-cancelling headphones. The teacher allows flexible movement during lessons for students who find it difficult to sit still, allowing students to use smartphones to follow the lesson as they move around the class.

Students take courses including creative media, engineering and game design, which revolve heavily around using tech, including 3D printers, cameras, a MIDI keyboard and microphone. Tech is used creatively, but the school is resource-constrained, with limited budgets, often resorting to using free apps. Students do not get homework. Use of AI is permitted if used in alignment with intended learning outcomes.

Secondary 2 (S2)

The school recently underwent a merger and a name change under a trust, which introduced new policies and staff members. It is an academy converter in England, catering for around 1,000 pupils aged 11-18. The school is situated in a highly deprived area, with a diverse student population comprising multiple ethnicities, many from low socioeconomic status (SES) backgrounds, and several with SEND and ESL. As one teacher noted, pupils' results have not been 'very strong' as the focus had previously been on compliance rather than problem-solving and critical thinking. Pupils' reading ages have been significantly lower than expected.

The school holds a generally positive view towards tech, seeing it as having potential to improve children's learning outcomes, particularly those from deprived backgrounds. Children used a limited number of apps, including Class Charts and Seneca. The school is in the process of creating new EdTech policies, including acceptable use policies for students.

Pupils cannot take their devices home but often do their homework on school PCs either before or after school.

The school employed a fair amount of gamification in order to motivate students. Here are some extracts from our reflection notes:

At the end of the Year 7 workshop, the teacher awarded all children reward points for being engaged in the session... At the end of the Year 8 workshops, everyone gathered to see which 3 children in the year won a lottery. A big screen at the front of the class had a wheel with all the names of children who had full attendance that week. It was spun and randomly three children got vouchers – money – as a reward.

Secondary 3 (S3)

A large comprehensive school in Scotland with around 1,300 students, many of whom come from low SES backgrounds. The school is a 'digital schoolhouse', a 'Google Reference' and 'Rights Respecting' school that has won a number of 'digital school' and 'digital skills' awards. It is forward-thinking when it comes to tech, with a large number of diverse devices and apps procured, including drones, Nintendo Switches and VR (virtual reality) headsets, working on digital twins and developing its own local language model with the support of a university. It continues to invest a lot in technology, including in specialist equipment. It has collaborated with universities and other organisations to continue to improve its use of tech in school. The school places a strong emphasis on career readiness and provides opportunities for vocational as well as more academic learning, reflected in the curriculum and the range of courses on offer, including e-sports, game development, woodworking and hair and beauty. Students continue to use textbooks alongside laptops.

Students are given their own devices and can take them home. Students complained about the poor Wi-Fi connection in the school, and noted that despite there being a lot of tech, the courses they took determined whether they got to use the tech.

Secondary 4 (S4)

A large comprehensive school in England with ‘a kind of grammar school flair’ (S4, Interview, English teacher, England), for children aged 11-16, with around 1,600 pupils, rated ‘Outstanding’ by Ofsted. The school is well-resourced, orderly, clean, with a high number of extracurricular activities promoting student development and equity. Participating children included prefects and badge earners. Pupils used a number of tools including GO 4 Schools, Sparx Maths and Seneca. Teachers described it as a ‘medium-tech’ school where children have iPads and laptops but are still expected to write exams by hand. The school has an IT acceptable use policy, outlining how students and staff are expected to use technology. Children are expected to use AI respectfully and responsibly.

Students do not take devices home. The school offers a homework club from Monday to Friday after school in the library, providing a quiet space for students to do their homework.

Secondary 5 (S5)[89]

A large Church of England academy in England, sponsor-led, catering for over 1,700 early years, primary and secondary school children aged 0-19. The school is a ‘smartphone free school’, was described as being ‘very anti-mobile phones’ and ‘trying to step away from using so much technology’, with one teacher suggesting they had never been given a policy on how to use technology within the classroom. Teachers recently agreed to ‘have a day where we’re completely screen free’, as most lessons tend to be delivered on PowerPoint. Children were encouraged to take notes by hand. Tech was not seen as a means for promoting creativity and collaboration. One teacher described lessons as ‘teacher-led’.

The school included children from ethnically diverse backgrounds, including many refugees, and children with SEND. Secondary age pupils were required to leave their phones in Yondr pouches during the school day.

Secondary 6 (S6)

The school in Northern Ireland is part of a Northern Ireland-wide network piloting various EdTech products, including Google Classroom, and the network provides the school with access to a range of apps and tools. Teachers had a positive yet balanced view towards tech, noting the school is ‘Very forward-thinking. We try to bring in as much technology as possible, but not technology for the sake of technology... If we find that it’s worthwhile and it’s going to improve kids’ learning’. Students had a positive attitude towards their school and their learning. They reported intermittent Wi-Fi connectivity problems, especially with phone access, which affected their ability to use tech effectively. Teachers had begun incorporating AI in their lessons, mainly for post-16 students, arguing that younger pupils need to first develop important skills that they would otherwise not develop with AI.

Students enjoyed gamified apps such as Blooket and Kahoot!

The school staff expressed a desire for national-level guidance and standards for EdTech procurement and use, noting that current approaches vary widely between schools, leading to unequal educational experiences. They seek clearer recommendations on which products to use, and more support from the Department for Education in Northern Ireland.

Primary 1 (P1)

A nursery, infants and juniors ‘Rights Respecting’ school catering for over 250 children in Wales. The school is located in an area with ‘a lower, if you like, economic sort of profile’ where many parents ‘ just about get by’. There is little ethnic diversity in the school, which is ‘almost exclusively white’ except for ‘a few Muslim families and a few Hindu families’. There are some children with SEND, including visual impairments, and both more and less severe forms of autism.

The headteacher considers it very important for children to use EdTech, seeing it as ‘a third strand, along with literacy and numeracy, to be digitally literate and to use it for good and to benefit themselves in the future and benefit the world’.

Children in Years 5 and 6 can bring in smartphones but have to hand them in to Reception when they arrive at school. The school uses Hwb, a Welsh government platform, which integrates Microsoft Suite and other apps such as Minecraft Education for school use, including apps for teachers and children. Children also had access to Google Classroom.

The school offers an after-school computing club, allowing interested students to explore advanced tech that they can then teach to their peers.

The headteacher expressed some scepticism about the pedagogical value of apps, particularly when children click through answers without genuine engagement.

Children are encouraged to use the free version of ChatGPT under the supervision of their teachers.

Primary 2 (P2)

The school is located in England and has over 400 pupils aged 3-11. It is a privileged, comfortable and community-oriented school, with various after-school clubs and tutoring for students needing extra help. The school has a cautious and experimental approach towards technology without overuse, balancing tech use with wellbeing concerns. Children used EdTech including interactive whiteboards, iPads, Chromebooks and Google Classroom.

The school included children with different needs such as EAL. Students must hand in phones to the school office during the school day.

Primary 3 (P3)

A large Church of England academy in England, sponsor-led, catering for over 1,700 early years, primary and secondary school children aged 0-19. The school is a 'smartphone-free school', was described as being 'very anti-mobile phones' and 'trying to step away from using so much technology', with one teacher suggesting they had never been given a policy on how to use technology within the classroom. Teachers recently agreed to 'have a day where we're completely screen free', as most lessons tend to be delivered on PowerPoint. Children were encouraged to take notes by hand. Tech was not seen as a means for promoting creativity and collaboration. One teacher described lessons as 'teacher-led'.

The school included children from ethnically diverse backgrounds, including many refugees, and children with SEND.

Primary 4 (P4)

This school is located in England and is part of a trust, described as a 'full form, very busy junior school' that promotes the 'little explorers' values. The school is located in a nice catchment area and 'has become more of a school of choice'. It also caters for around 500 students including children with diverse needs such as ESL and children with support plans.

This 'Google Reference' school supports the use of tech with children, including Chromebooks, Google Classroom, Now Press Play and Canva with its AI-integrated features. Children learn robotics and coding. The teacher highlighted the importance of teaching digital literacy and responsible AI use, noting that children need guidance to use AI safely rather than learning unsupervised at home. Some teachers receive training from Google (Google's Gemini Academy), and receive Google certification, and children have been to Google in California and Silicon Valley, with invitations to speak at Google AI DeepMind.

Primary 5 (P5)

This Roman Catholic school in England caters for over 500 children aged 2-11, with many low-income children on pupil premium and an increasing number of Children with SEND. The school is highly tech-positive, and described as being 'very forward thinking' and having 'a lot of tech across the whole school'. This includes access to robots and 3D printers.

The school begins to teach children about online safety very early on through the Common Sense Media platform. Children are expected to sign an 'Acceptable Use Policy' outlining simple rules that need to be followed when using tech. They are 'digital citizens'. Children take on the roles of digital leaders (children who work with the school's computing lead), and safety leads (children who work with safeguarding leads), offering support to children across the school and reporting problems to teachers when they arise.

Endnotes

1 Lucas (2026).
2 IFF Research (2025).
3 Bolibruchova et al. (2026).
4 Grand View Research (n.d.).
5 OECD (2026).
6 UNESCO et al. (2024).
7 Digital Futures Commission (2023).
8 https://www.digital-futures-for-children.net
9 https://5rightsfoundation.com
10 https://garfieldweston.org
11 https://rothschildfoundation.org.uk
12 https://www.digital-futures-for-children.net/our-work/edtech-summary
13 Definitions are adapted from the Digital Futures for Children (DFC) glossary (Atabey et al., 2023a) and from Atabey et al.'s (2025) child rights audit of GenAI in EdTech report.
14 5Rights Foundation (2022).
15 Council of Europe (2025). See also Council of Europe (2024): 'artificial intelligence system means a machine-based system that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations or decisions that may influence physical or virtual environments. Different artificial intelligence systems vary in their levels of autonomy and adaptiveness after deployment.'
16 ISO (2022).
17 UN (1989).
18 Livingstone & Pothong (2023).
19 ICO (2021).
20 DCMS (2022); EU (2022).
21 5Rights Foundation (2022).
22 UN (1989).
23 OHCHR (1993).
24 Atabey et al. (2023b).
25 UNICEF (2019).
26 Atabey et al. (2025).
27 See 5Rights Foundation (2025); ICO (2025).
28 5Rights Foundation (2021a); Council of Europe (2022).
29 IEEE (2017); WHO (2021).
30 Livingstone & Pothong (2023).
31 Robinson (2023, p. 81).
32 Atabey et al. (2025, p. 11).
33 Day et al. (2024).
34 ICO (2026).
35 Atabey et al. (2025).
36 Bolibruchova et al. (2026).
37 See: www.grandviewresearch.com/industry-analysis/education-technology-market
38 Bolibruchova et al. (2026)
39 Kucirkova et al. (2026); Pothong et al. (2026).
40 UN (1989).
41 Ibid.
42 Atabey et al. (2025).
43 Internet Matters (2025a).
44 Internet Matters (2025b).
45 Bissoondath (2024).
46 National Literacy Trust (2025).
47 Berendt et al. (2020); UNESCO (2026).
48 Berendt et al. (2020); Pringle et al. (2016).
49 Staksrud et al. (2026).
50 Gerlich (2025); Jayadeva & Livingstone (2026).
51 A GCSE, or General Certificate of Secondary Education, is an academic qualification typically taken by pupils aged 15-16 in England, Wales and Northern Ireland.
52 See Sparx Terms and Conditions: https://drive.google.com/file/d/10EI422ymh3rn1HYmhbP0Yq7FIZPcTQ5-/view
53 Department of Education (Northern Ireland) (2026); DSIT et al. (2026); Hwb® (2026); Scottish Government (2026a).
54 See Atabey et al. (2025, Appendix 2) for a discussion on the UK's devolved education system and how it adds complexity to AI governance.
55 Gauth AI is described on its website as an 'AI study companion designed to support learning, not substitute students' own work' (www.gauth.com). It is owned by ByteDance, the parent company of TikTok.
56 This is supported by previous research; see, for example, Luo (2025).
57 Stoilova et al. (2025).
58 Burns et al. (2026).
59 UNESCO (2025).
60 Couceiro et al. (2026).
61 Converting photos of handwritten or printed text into machine-readable digital text.
62 Mallawaarachchi et al. (2023); Tulloch & Randell-Moon (2018); Zomer (2026).
63 5Rights Foundation (2021b).
64 Dah et al. (2025).
65 Dah et al. (2025); Deci & Ryan (2004).
66 Nicholson (2015).
67 Schrape (2014).
68 Bogost (2011).
69 Robertson (2010).
70 Zomer et al. (2025).
71 See also Manolev et al. (2019).
72 www.classdojo.com/en-gb
73 For more on the procurement decisions of schools and what this means for children's education data, see Turner et al. (2022).
74 Bolibruchova et al. (2026).
75 The DfE measures digital maturity in schools using a metric based on three key pillars: technology (including hardware, software, connectivity and infrastructure), capability (staff training and confidence in using technology) and strategy (implementation and planning of strategies, managing change and investing in technology) (DfE, 2022).
76 Bolibruchova et al. (2026).
77 UNESCO (2023).
78 West (2025).
79 House of Commons (2026): 'YouTube is a place for learning… If we were to ban people from those services, it would have a disproportionate effect on people from more deprived backgrounds.'
80 Van Dijck et al. (2018).
81 Burns et al. (2026).
82 ICO (2021).
83 For more on the best interests of the child in the digital environment, see Livingstone et al. (2024).
84 Burns et al. (2026).
85 Mukherjee et al. (2021).
86 The Scottish Government is now mandating CRIA in education policy (Atabey et al., 2026). It has published a Child Rights and Wellbeing Impact Assessment template and national guidelines and guardrails for the use of AI in schools (Scottish Government 2026a, 2026b).
87 The methodology is described in more detail in El Gemayel et al. (2026).
88 Flewitt (2005).
89 Secondary 5 (S5) and Primary 3 (P3) are part of the same school.

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