

# Count on It

AI, Numeracy, and Social Mobility

July 2026

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The views in this report are those of the authors and Policy Connect. Whilst these were informed by the contributors to our inquiry, they do not necessarily reflect the opinions of those individuals and organisations.

We would like to acknowledge the leadership, support and contributions of KPMG, as well as the collaborating organisations and members of the National Numeracy Leadership Council: Bloomberg, Capital One, Compare the Market, Experian, EY, LSEG, Oliver Wyman, TP ICAP and Vanquis

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# Foreword

Artificial Intelligence (AI) bifurcates popular opinion. For some it is the great enabler with the potential to transform how efficiently and effectively we operate as individuals and economies. For others, it is the ultimate threat, risking our jobs, agency, security – potentially even our very existence. These are quite different pathways for individuals and societies. Ultimately, it will be for us to choose which of these paths we take.

When it comes to the links between AI and numeracy, we also see two different possible pathways ahead – one of opportunity, the other threat. AI could be a great enabler of educational progress by democratising access to the information and tools necessary to thrive. In that role, AI could be as genuinely transformative for social mobility as earlier was comprehensive schooling.

On the other hand, access to and use of AI tools is not, at present, evenly spread socio-economically. This excellent report by Policy Connect for the National Numeracy Leadership Council suggests one fundamental reason why AI could exaggerate levels of inequality rather than shrink them: a lack of numeracy skills.

Information is not the same as insight. AI provides an abundance of the former but is not guaranteed to deliver the latter. And it is insight – problem-solving, critical thinking, informed decision-making – that determines whether AI transforms lives for the better. As the report sets out compellingly, numeracy skills are key to determining whether AI can deliver a genuine leap forward in insight, understanding and decision-making.

Put in the language of threat rather than opportunity, there are large socio-economic differences in levels of numeracy across the UK. Given the key role numeracy plays in harnessing the benefits of AI, this increases the risk AI widens rather than shrinks socio-economic divides. In other words, without improvements in levels of numeracy, AI risks impeding rather than speeding social mobility.

This calls for efforts to rethink our approach to education, placing centre-stage numeracy, AI and their link to critical thinking and problem-solving. It is no exaggeration to say that it is only by doing so that AI will fulfil its potential, shrinking differences in educational opportunity and transforming the lives of those most in need.

This report does a wonderful job of setting out the educational steps that need now to be taken. As Chair of the National Numeracy Leadership Council, I am very grateful to Policy Connect for producing such a compelling report. I hope its recommendations will find their way into practice quickly, positioning the UK on the pathway of AI opportunity rather than threat.



**Andy Haldane**

**Chair of National Numeracy Leadership  
Council and Patron of National Numeracy**

A handwritten signature in black ink, consisting of a stylized 'A' followed by a long, sweeping horizontal line.

# Foreword

AI is rapidly becoming part of our daily lives, both in and out of work. Naturally, we feel excitement about its potential to improve productivity, create new opportunities and support economic growth, but access to AI tools is only one part of the equation. Success often boils down to people having the skills and confidence needed to use them effectively.

We know that numeracy skills are vital to navigating everyday life, and yet this report reveals that only a quarter of people believe good numeracy skills are needed to use AI tools. AI may be able to generate answers in seconds, but understanding the data behind those answers, challenging the outputs and recognising when something doesn't look right, all rely on strong numerical reasoning and critical thinking.

From a business perspective, this really matters. I regularly speak with organisations who are grappling with the challenge of embedding AI. It's already rapidly transforming the ways we work, but AI's full potential can't be realised unless those tools are being used intelligently. That means equipping people with the confidence and capability they need to interrogate information, identify patterns and make informed decisions. Numeracy skills are at the heart of this.

In an increasingly AI-focused economy, there is a real risk that those who already face barriers to opportunity will be left further behind. As a mother of two teenagers, and on the board of an academy with schools right across our country, as well as my Chair role for KPMG, I worry about how we can work better, educate better, deliver better every day. The AI revolution needs parents, schools, universities and business working together in a joined-up way with regional and national policymakers. In short, a revolution of joined up action to lead the AI revolution to boost opportunity and deliver much needed growth.

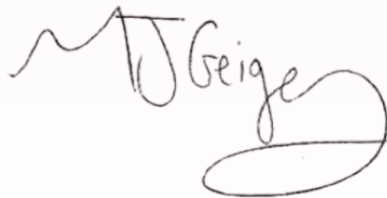
I feel passionately that we need to equip young people, in particular, with the numeracy skills they need to thrive in the workplaces of the future and create pathways for people from all backgrounds to succeed.

Without action soon, AI could continue to widen existing divides rather than serve as a tool to close them. I hope this report encourages policymakers, educators and employers to jointly recognise that strengthening numeracy across the UK is not simply an educational issue, but an economic and social imperative essential to building a more inclusive and prosperous future for all.



**Melissa Geiger**

**Group Chair KPMG UK and Switzerland**

A handwritten signature in black ink, reading "M Geiger". The signature is stylized with a large, flowing "M" and a long, sweeping underline.

## Table of Contents

|                                                                                                                                                           |           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>Executive Summary .....</b>                                                                                                                            | <b>3</b>  |
| <b>Section 1 – Introduction .....</b>                                                                                                                     | <b>5</b>  |
| Research Scope and Objectives .....                                                                                                                       | 5         |
| Methodology .....                                                                                                                                         | 5         |
| Note on Terminology .....                                                                                                                                 | 6         |
| <b>Section 2 – Policy Landscape .....</b>                                                                                                                 | <b>8</b>  |
| National AI Strategy .....                                                                                                                                | 8         |
| AI in Education and Skills .....                                                                                                                          | 10        |
| Numeracy and Maths Provision.....                                                                                                                         | 11        |
| <b>Section 3 – Summary of Findings .....</b>                                                                                                              | <b>14</b> |
| <b>Theme 1 – AI's potential and the conditions for effective engagement .....</b>                                                                         | <b>14</b> |
| 1.1 AI tools present significant opportunities to augment skills and broaden access to information, with potential implications for social mobility ..... | 14        |
| 1.2 Concerns around output reliability mean critical thinking is the most important skill for AI engagement.....                                          | 16        |
| 1.3 The role of numeracy in critical thinking and AI literacy is not widely recognised .....                                                              | 17        |
| 1.4 Many people overestimate their numerical ability, with implications for AI engagement.....                                                            | 19        |
| <b>Theme 2 – Inequality in AI engagement and its consequences.....</b>                                                                                    | <b>21</b> |
| 2.1 Over-reliance on AI for numeracy tasks may risk eroding the numeracy skills needed to evaluate its outputs.....                                       | 21        |
| 2.2 Without intervention, AI risks compounding existing disadvantage.....                                                                                 | 23        |
| 2.3 Expanding access to AI tools alone will not close these gaps .....                                                                                    | 26        |
| <b>Theme 3 – AI training and provision across education and work .....</b>                                                                                | <b>27</b> |
| 3.1 Education and workplace training are both struggling to keep pace with AI.....                                                                        | 28        |
| 3.2 AI skills are being acquired primarily through self-directed learning, with formal provision reaching only a minority.....                            | 31        |
| 3.3 Existing training focuses on functional use rather than the technical understanding needed to engage critically with AI.....                          | 32        |
| <b>Section 4 – Recommendations .....</b>                                                                                                                  | <b>33</b> |
| Recommendation 1: Numeracy as a condition for AI literacy .....                                                                                           | 34        |
| Recommendation 2: Critical AI literacy .....                                                                                                              | 37        |
| Recommendation 3: Curriculum frameworks and the skills needed for critical AI engagement ....                                                             | 38        |
| Recommendation 4: AI tools in educational settings.....                                                                                                   | 39        |
| Recommendation 5: Teacher professional development and initial teacher training .....                                                                     | 41        |
| <b>Conclusion .....</b>                                                                                                                                   | <b>43</b> |
| <b>Annex.....</b>                                                                                                                                         | <b>45</b> |
| <b>Research Methodology.....</b>                                                                                                                          | <b>45</b> |
| Research Design and Desk Research .....                                                                                                                   | 45        |
| Qualitative Stakeholder Engagement .....                                                                                                                  | 45        |
| Quantitative Survey .....                                                                                                                                 | 45        |
| Advisory Board Meetings.....                                                                                                                              | 49        |
| Interim Summary .....                                                                                                                                     | 49        |

|                                   |           |
|-----------------------------------|-----------|
| Report Drafting.....              | 50        |
| AI Use Statement.....             | 50        |
| <b>List of Contributors .....</b> | <b>50</b> |
| <b>Acknowledgements .....</b>     | <b>52</b> |
| <b>Policy Connect .....</b>       | <b>52</b> |
| <b>References.....</b>            | <b>52</b> |
| <b>Glossary .....</b>             | <b>54</b> |

# Executive Summary

In 2026, businesses of the National Numeracy Leadership Council launched a new research project, conducted by Policy Connect and supported by KPMG UK, examining what the rise of artificial intelligence means for numeracy skills and social mobility in the UK.

This report identifies numeracy as an underrecognised condition for critical AI engagement. The people who stand to gain most from AI, particularly those from lower socioeconomic backgrounds, are among the least equipped to engage with it critically, and existing policy does not reflect this. Without deliberate action to embed numeracy into AI strategy and education, AI could deepen existing inequalities rather than address them. The report sets out a practical agenda for change, built around five recommendations directed at the Government, the Department for Education, Skills England, and employers.

AI tools could meaningfully broaden access to information, guidance and opportunity, with particular implications for social mobility. People who have historically faced barriers to progression, including those with limited access to professional advice, formal qualifications, or structured skills development, could find in AI a resource that adapts to their needs and is available outside formal settings and timetables. Realising that potential, however, depends on people having the skills to engage with these tools effectively and critically, and that condition is currently unmet for a significant proportion of the population.

A central finding of this research is that numeracy is a foundational condition for critical AI engagement. AI tools are probabilistic: they generate responses based on statistical patterns and may present outputs with a confidence that does not always reflect their accuracy. Errors, including factual inaccuracies and misleading or incomplete responses, may not always be visible to the user, and signals prompting closer examination are not consistently built in. This matters even when someone is not asking AI to perform a numeracy task directly. Because AI systems work by identifying statistical patterns rather than establishing verified facts, engaging critically with what they produce, including judging whether a response is plausible, recognising when a figure looks inconsistent, or understanding that an output reflects likelihood rather than certainty, requires a baseline of numeracy. Yet only 25% of those surveyed recognise numeracy as relevant to AI use, and that figure is lowest among the groups already most disadvantaged in numeracy and digital engagement.

Two groups face particular risk as a result. The first are those using AI without the numeracy needed to question what it produces, who may accept outputs at face value in areas that matter, including financial decisions, health information or employment. The second are those aware of AI but not using it, often because of low confidence or anxiety about engaging with unfamiliar technology. Both groups are disproportionately likely to include people from lower socioeconomic backgrounds. Expanding access to AI tools and encouraging their use are important steps, but are unlikely on their own to close these gaps: without the numeracy needed to question, interpret and verify what AI produces, the benefits of wider access may not be realised.

There is also a risk that patterns of AI use could affect numeracy skills over time. Where people rely on AI to complete tasks requiring numeracy rather than working through them directly, the skills needed for critical assessment may weaken. This could become self-reinforcing: reduced engagement with numeracy may reduce the ability to evaluate AI outputs, which could increase reliance on the tools, which could further limit the development of those skills. The evidence base here is still emerging, but it points to a risk that warrants deliberate policy attention.

Numeracy is currently underrecognised in government policy on AI. Across AI strategy, education policy and workplace training frameworks, numeracy appears as an implicit requirement rather than a named one, without the recognition or investment that its role in critical AI engagement requires. This report subsequently makes five recommendations:

- **Recommendation 1:** The Government should recognise numeracy as a foundational condition for AI literacy and commit to increased investment in adult numeracy across education, work and community settings, including a funded successor to the Multiply programme designed with AI literacy in scope.
- **Recommendation 2:** The Department for Education, working with Skills England, employers and AI sector representatives, should develop a publicly available critical AI literacy curriculum framework covering the technical and numeracy skills needed to engage with AI outputs effectively.
- **Recommendation 3:** The Department for Education should ensure that critical AI literacy and key numeracy skills are embedded as named components of formal education at school and post-16 level.
- **Recommendation 4:** The Department for Education should establish requirements for AI tools used in educational settings that support active numerical engagement, beginning with the procurement specifications for the AI tutoring programme.
- **Recommendation 5:** The Department for Education should ensure that teachers are equipped with AI literacy and numeracy skills, across both the existing workforce and the training pipeline.

# Section 1 – Introduction

## Research Scope and Objectives

In 2026, businesses of the National Numeracy Leadership Council launched a new research project, conducted by Policy Connect and supported by KPMG UK, exploring what the rise of artificial intelligence means for numeracy skills and social mobility in the UK. The research examined whether people in the UK currently have the numeracy skills needed to engage with AI tools confidently and critically, and what it means for education, employment and social mobility when those skills are absent or unevenly distributed.

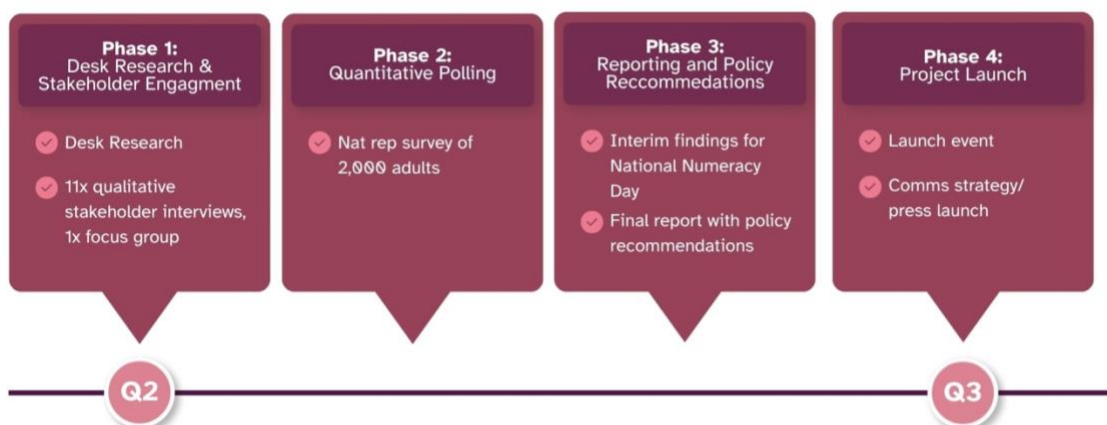
The research addresses the following questions:

- **AI Literacy:** What specific numeracy skills do people in the UK need in order to use AI tools effectively, interpret their outputs, and apply them in decision-making, and to what extent does the current population possess these skills?
- **Education and Employment:** How does the growing role of AI in workplaces and educational settings change the numeracy skills demanded of individuals, and who risks being left behind if those skills are not in place?
- **Policy Action:** What steps should policymakers take to promote numeracy as a fundamental skill in the age of AI, across education, work and everyday use?

## Methodology

The research used a mixed-methods approach, drawing on the following:

- Desk research and a review of existing literature to establish the policy and evidence landscape
- Ten in-depth interviews and one focus group (five participants) with stakeholders across industry, education, and the public sector
- A nationally representative online survey of over 2,000 UK adults aged 18-75, conducted by Ipsos in April 2026, comprising ten closed questions covering AI awareness and use, numeracy confidence, and attitudes toward AI reliability and training
- Continued engagement with an advisory board comprising businesses of the National Numeracy Leadership Council



This report presents the full findings of the research. It sets out the policy landscape within which the research was conducted, the evidence gathered across qualitative and quantitative strands, and a set of recommendations directed at policymakers, educators, and employers.

### Note on Terminology

Throughout this report, we have referred to certain terms that are explained here for ease of readability. For a full breakdown of terminology, please see the glossary in the annex.

References to **AI** relate specifically to large language model (LLM) tools: AI systems that generate text-based responses to user inputs by drawing on patterns in large volumes of training data. In practice, this means tools such as ChatGPT, Claude, and Gemini. This reflects the focus of stakeholder interviews and focus groups, in which participants were predominantly referring to chatbot-style tools of this kind rather than AI functionality embedded within other software and services. Where evidence cited in the report draws on broader definitions of AI, this is noted.

AI tools are continuing to evolve beyond this form, including through the growing use of AI agents that act on a user's behalf across multiple steps or systems. These newer forms are largely built on the same underlying architecture as the LLM-based tools this report examines: they generate outputs by drawing on patterns learned from large volumes of training data, and remain probabilistic in nature, meaning their outputs reflect statistical likelihood rather than verified fact. The numeracy skills this report identifies as necessary, including the capacity to judge plausibility, recognise uncertainty, and interpret outputs with appropriate scepticism, are therefore expected to remain relevant regardless of the specific interface or task an AI system is performing.

By **numeracy** the report refers to the ability to understand, interpret, and work with numbers in real-world situations. This encompasses more than performing calculations correctly: it includes the capacity to interpret numerical information, reason with data, and make informed decisions based on quantitative evidence. Numeracy in this sense is a practical, applied capability, concerned with confidence and competence in everyday numerical tasks, rather than formal mathematical proficiency.

References to **socioeconomic grades** use the National Readership Survey (NRS) classification system.<sup>1</sup> This is a standard UK demographic framework based on the occupation of the chief income earner in a household. Six categories are used, typically grouped as AB (higher and intermediate managerial, administrative or professional), C1 (supervisory, clerical or junior managerial), C2 (skilled manual workers), and DE (semi-skilled and unskilled manual workers, state pensioners, and those on the lowest grade or casual work).

References to **critical AI literacy** refer to the numerical, technical, and analytical understanding needed to engage with AI tools effectively and critically, and to evaluate their outputs. This includes how AI systems generate responses, the role of probability and statistical inference in that process, and the numeracy needed to judge what AI produces.

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<sup>1</sup>Ipsos, *Social Grade: A Classification Tool, Bite Sized Thought Piece*. Published July 2009. <https://www.ipsos.com/en-uk/social-grade>

"Literacy" is used here in the broader sense of being able to do something well, as in being "literate" in a subject or skill area, rather than literacy in the narrower sense of reading and writing.

## Section 2 - Policy Landscape

### National AI Strategy

The Labour government's AI Opportunities Action Plan, published in January 2025, identifies that AI could be the single biggest lever for the government's economic and public service missions.<sup>2</sup> The plan identifies the UK's existing strengths as world-leading research, a vibrant startup ecosystem and the presence of major frontier AI companies. To date, the government reports meeting 38 of the 50 recommendations set out in the January 2025 Action Plan.<sup>3</sup> This includes five AI Growth Zones being designated across the UK, reportedly generating £28.2 billion in private investment and over 15,000 jobs.<sup>4</sup> The government has also delivered 1 million free AI upskilling training courses through industry partners, as part of its commitment to provide free AI training to 10 million workers to reduce the current AI and digital skills gap.<sup>5</sup> Most recently, the announcement of the Sovereign AI Fund marked another step forward on the action plan.<sup>6</sup> The fund is set to provide financial and strategic support to UK AI startups, including navigating regulations, procurement and acquiring talent.<sup>7</sup>

Skills England's November 2025 report identified a series of barriers to delivering the government's AI skills ambitions.<sup>8</sup> These included inconsistent use of the term 'AI Skills', the lack of foundational digital literacy, a fragmented training ecosystem, limited curriculum responsiveness to emerging AI trends, training costs and funding fragility, and limited employer understanding of workforce skills needs. It also emphasised how Small and Medium-Sized Enterprises (SMEs) face distinct challenges around capacity, cost and awareness.<sup>9</sup>

Skills England presents a framework of three types of AI Skills necessary for workforce planning and training:

1. Technical skills, practical, applied competencies required to operate, monitor and guide AI systems.
2. Responsible or ethical skills, the ability to uphold ethical principles, ensure transparency and accountability, assess bias and apply legal and regulatory standards.
3. Non-technical skills, the foundational, transferable competencies necessary to understand, engage and critically evaluate AI tools for efficiency.

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<sup>2</sup> Department for Science, Innovation & Technology. *AI Opportunities Action Plan*. Published January 13, 2025. UK Government. <https://www.gov.uk/government/publications/ai-opportunities-action-plan/ai-opportunities-action-plan>

<sup>3</sup> HM Government, "AI Opportunities Action Plan: One Year On", 2026, GOV.UK Department for Science, Innovation & Technology. *AI Opportunities Action Plan: One Year On*. Published January 29, 2026. UK Government. <https://www.gov.uk/government/publications/ai-opportunities-action-plan-one-year-on/ai-opportunities-action-plan-one-year-on>

<sup>4</sup> Ibid

<sup>5</sup> Ibid

<sup>6</sup> Department for Science, Innovation and Technology, and The Rt Hon Liz Kendall MP. "Tech Secretary Launches Sovereign AI." Published April 16, 2026. <https://www.gov.uk/government/speeches/tech-secretary-launches-sovereign-ai>

<sup>7</sup> Ibid.

<sup>8</sup> Skills England. *Barriers to AI Skills Development*. Research and analysis. Published October, Updated November 4, 2025. <https://www.gov.uk/government/publications/ai-skills-for-the-uk-workforce/barriers-to-ai-skills-development>

<sup>9</sup> Ibid

This framework was formalised in January 2026 with the publication of the AI Foundation Skills for Work benchmark, which sits within the AI Skills Boost programme and the wider 10 million worker targets.<sup>10</sup> The benchmark sets out six AI foundation skills across the three domains. Free, industry-developed courses are aligned to each skill, with digital badges awarded on completion. The six skills are:

- Writing clear instructions for AI tools
- Using AI tools to support routine processes and tasks
- Using simple software that automates work tasks
- Adjusting how an AI tool works to get better results
- Understanding the risks and consequences associated with AI use
- Analysing information using AI tools

Despite these skills requiring a certain level of numerical understanding, they are classified as AI skills rather than numeracy skills, reflecting a broader pattern across government policy of treating numeracy as an embedded but unnamed requirement.

This emphasis on functional AI skills over foundational understanding is echoed in the most recent Skills England-linked evidence. In June 2026, Skills England and the Department for Work and Pensions published Skills for AI: What Works for AI Upskilling in the UK, drawing on more than 150 organisations and setting out a six-part framework for effective training, known as PRIMES (Practical, Reachable, Integrated, Modular, Expandable and Sustainable).<sup>11</sup> The report found that AI adoption is outpacing workforce capability, that most workers are learning informally through trial and error, and that the binding constraint is capacity rather than awareness, with organisations citing cost and limited availability as the main barriers.<sup>12</sup> Its conclusions align closely with this report's findings on the gap between functional and technical training. However, like the benchmark before it, the framework does not identify numeracy as a named component of the capability it sets out to build.

This pattern was reinforced by a cluster of announcements during London Tech Week in June 2026. On 8 June, the government convened the first AI Adoption Summit, framed around the argument that the largest economic gains from AI come from adoption rather than invention.<sup>13</sup> It was accompanied by a package of more than £200 million to support adoption, including £100 million to expand the Bridge AI scheme, £53 million for new initiatives such as the Tech Town programme, funding for AI Growth Zones and the Spärck AI Scholarships.<sup>14</sup> The government reported that 1.7 million AI Skills Boost courses had been

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<sup>10</sup> Skills England. AI Foundation Skills for Work Benchmark. Guidance. Published January 28, 2026. <https://www.gov.uk/government/publications/ai-foundation-skills-for-work/ai-foundation-skills-for-work-benchmark> ; Department for Science, Innovation & Technology. AI Skills Boost: Explainer. Notice. Published January 28, 2026. <https://www.gov.uk/government/publications/ai-skills-boost-explainer/ai-skills-boost-explainer>

<sup>11</sup> Ameen, Nisreen. Skills for AI: What Works for AI Upskilling in the UK. Department for Work and Pensions and Skills England, in partnership with the British Academy Policy-Led Innovation Fellowship, Royal Holloway, University of London, 10 June 2026. <https://www.gov.uk/government/publications/skills-for-ai-what-works-for-ai-upskilling-in-the-uk>

<sup>12</sup> Ibid

<sup>13</sup> Department for Science, Innovation and Technology. "Government to Partner with Tech Companies, Trade Unions and Industry Leaders to Boost AI Adoption and Equip Workers with AI Skills." 8 June 2026. <https://www.gov.uk/government/news/government-to-partner-with-tech-companies-trade-unions-and-industry-leaders-to-boost-ai-adoption-and-equip-workers-with-ai-skills>

<sup>14</sup> Ibid

delivered as of April 2026, against the wider target of training 10 million workers by 2030.<sup>15</sup> Alongside the summit, Chancellor Rachel Reeves announced the Prime Minister's £1.1 billion UK AI Hardware Plan, focused on semiconductors, compute and chip technologies and backed by £400 million for the next national AI supercomputer.<sup>16</sup> The scale of this infrastructure commitment, set against a skills offer that does not name numeracy, illustrates the imbalance this report identifies between investment in the systems that run AI and investment in the foundational skills people need to use it well. For young people from lower socioeconomic backgrounds, who are disproportionately represented in entry-level roles and most exposed to automation, the absence of numeracy from this offer is particularly significant.

Ahead of the summit, the government also announced a package of support for young people entering an AI-affected labour market. This included a new Early Careers Jobs Alliance, backed by £20 million and bringing together government, employers and trade unions to map how entry-level work is changing.<sup>17</sup> It also included an AI bootcamp scheme, piloting in five areas before a possible national rollout between 2027 and 2028 and an expansion of the TechFirst programme to reach 400,000 students in the most disadvantaged schools.<sup>18</sup> These measures respond to rising youth unemployment and concern that AI is eroding entry-level routes into work, but, as with the broader skills offer, they treat AI competence as the headline skill without naming the numeracy skills that underpin it.

## AI in Education and Skills

The pattern identified earlier is also visible in how AI has been introduced into education policy. The latest Department for Education (DfE) guidance on generative AI frames it primarily as a tool for reducing teacher workload rather than direct learning intervention.<sup>19</sup> Schools have not been explicitly directed to adopt pupil-facing AI tools but are permitted to do so under strict conditions, such as close supervision, age-appropriate safeguarding, data protection compliance, and use of tools with filtering and monitoring features. DfE remains open to the benefits of AI use in schools and is currently in a research, evidence-gathering and pilot-testing phase of AI adoption in education. In April 2026, DfE invited EdTech and AI companies to begin building and testing safe AI tutoring tools in up to 1,000 schools from Summer 2026, with the potential to scale up successful tools to target 450,000 children on free school meals in Years 9 to 11.<sup>20</sup> Yet, neither the

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<sup>15</sup> Department for Science, Innovation and Technology and The Rt Hon Liz Kendall MP. "Liz Kendall's Speech at AI Adoption Summit." 8 June 2026. <https://www.gov.uk/government/speeches/liz-kendalls-speech-at-ai-adoption-summit>

<sup>16</sup> HM Treasury. "Chancellor Rachel Reeves Speech at the AI Adoption Summit." 8 June 2026. <https://www.gov.uk/government/speeches/chancellor-rachel-reeves-speech-at-the-ai-adoption-summit>

<sup>17</sup> Department for Science, Innovation and Technology. "Entry-Level Jobs Support, AI Bootcamps and Tech Training as Government Supports Young People into the Jobs of the Future." 6 June 2026. <https://www.gov.uk/government/news/entry-level-jobs-support-ai-bootcamps-and-tech-training-as-government-supports-young-people-into-the-jobs-of-the-future>

<sup>18</sup> Ibid

<sup>19</sup> UK Department for Education. Generative Artificial Intelligence (AI) in Education. Policy paper. Updated August 12, 2025. <https://www.gov.uk/government/publications/generative-artificial-intelligence-in-education/generative-artificial-intelligence-ai-in-education>

<sup>20</sup> Department for Science, Innovation and Technology, Department for Education, Ian Murray, and Olivia Bailey. "Edtech and AI Companies Invited to Help Build Safe AI Tutoring Tools for Disadvantaged Pupils." Press release. Published April 16, 2026. <https://www.gov.uk/government/news/edtech-and-ai-companies-invited-to-help-build-safe-ai-tutoring-tools-for-disadvantaged-pupils>

guidance nor the pilot criteria set out any requirement for AI tools to address numeracy as a prerequisite for effective engagement, despite the numeracy skills that effective and critical engagement with those tools requires.

Beyond the DfE's pilot programme, formal AI learning currently depends on optional qualifications, most commonly GCSE Computer Science, or on individual school decisions about how to deliver the computing requirement. Yet, the statutory computing curriculum, unchanged since 2013, does not name AI explicitly, and reforms to address this will not be in place until 2028.<sup>21</sup> At post-16 level, a new data science and AI qualification is planned, but it will be optional.<sup>22</sup>

AI has also featured in the government's approach to media literacy. In March 2026, the Department for Science, Innovation and Technology (DSIT) published *A Safe, Informed Digital Nation*, a three-year Media Literacy Action Plan covering 2026 to 2029.<sup>23</sup> The plan sets out a government-wide vision for improving the public's ability to navigate an increasingly complex digital environment, built around three core principles and four priority areas for action. Its primary focus is misinformation, critical thinking, and online safety, but several of its 27 actions commit to competencies that depend on numeracy, without naming it. These include recognising fraud and protecting personal finances, and supporting one million secondary school pupils to develop AI and advanced digital skills through the £24 million TechFirst Youth programme.<sup>24</sup> One of the actions commits DSIT and DfE to updating the Essential Digital Skills Standards and Essential Digital Skills Framework through 2026 and linking them to AI skills.<sup>25</sup>

## Numeracy and Maths Provision

Within education policy, numeracy and maths are addressed directly through a number of recent developments, at school, post-16 and adult level. The most significant recent development at school level is the Curriculum and Assessment Review, published in November 2025.<sup>26</sup> The Review frames maths as fundamental to everyday life, further study and employment, and makes several recommendations aimed at strengthening foundations across Key Stages:

- A full resequencing of Key Stages 1 to 3 maths content to improve depth and continuity.
- Expansion of the Securing Foundations programme, a Maths Hubs initiative currently operating at Year 7, which supports pupils who did not meet age-related expectations

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<sup>21</sup>Department for Education. National Curriculum in England: Computing Programmes of Study. Published September 11, 2013. <https://www.gov.uk/government/publications/national-curriculum-in-england-computing-programmes-of-study> ; UK Government. Government Response to the Curriculum and Assessment Review. November 2025. [https://assets.publishing.service.gov.uk/media/690b2a4a14b040dfe82922ea/Government\\_response\\_to\\_the\\_Curriculum\\_and\\_Assessment\\_Review.pdf](https://assets.publishing.service.gov.uk/media/690b2a4a14b040dfe82922ea/Government_response_to_the_Curriculum_and_Assessment_Review.pdf)

<sup>22</sup> Ibid.

<sup>23</sup> Department for Science, Innovation and Technology, Department for Culture, Media and Sport, and Department for Education. *A Safe, Informed Digital Nation*. Policy paper. Published March 16, 2026. <https://www.gov.uk/government/publications/a-safe-informed-digital-nation>

<sup>24</sup> Ibid.

<sup>25</sup> Ibid

<sup>26</sup> Department for Education. Curriculum and Assessment Review: Building a World-Class Curriculum for All. Final Report. Published November 5, 2025. <https://www.gov.uk/government/publications/curriculum-and-assessment-review-final-report>

at the end of primary school to revisit and consolidate KS1 and KS2 content before progressing to KS3.

- More targeted small-group interventions for pupils performing below age-related expectations or with special educational needs and disabilities (SEND).
- Diagnostic assessments in both maths and English at Year 8, to help teachers identify gaps before KS4.

At post-16 level, the Post-16 Education and Skills White Paper, published in October 2025, represents a significant change to post-16 maths provision.<sup>27</sup> The White Paper introduced new Level 1 'Preparation for GCSE' qualifications in English and maths, designed to give learners with prior attainment at grade 2 or below the time to build foundational knowledge before progressing to a full GCSE resit.<sup>28</sup> The aim is to break a cycle of repeated, unsuccessful resits that disproportionately affects students from socioeconomically disadvantaged backgrounds. The Level 1 qualification sits within a wider commitment to retain the requirement that all students without a grade 4 (a standard GCSE pass) in maths and English should continue studying both subjects post-16, but to change how this is delivered, with the aim of increasing the proportion achieving grade 4 or above by age 19. The government's response to the Curriculum and Assessment Review also signalled the exploration of a new 16-18 qualification in data science and AI, and the replacement of the Computer Science GCSE with a broader, future-facing Computing GCSE.<sup>29</sup>

For adults outside formal education, the Multiply programme provided free and flexible numeracy courses to adults aged 19 and over without a Level 2 or GCSE C/4 maths qualification.<sup>30</sup> This programme moved beyond traditional classroom-based delivery, offering community-based, employer-contextualised and family learning formats, alongside both accredited and non-accredited options, to reach adults who might not otherwise engage with formal education. However, the Multiply programme's ringfenced funding ended in March 2025. From 2025-26, the UK Shared Prosperity Fund no longer protects adult numeracy as a distinct funding line. Instead, local authorities can choose to fund numeracy provision under the People and Skills investment priority, which contains a Skills sub-theme covering essential skills. Within this sub-theme, numeracy sits alongside literacy, English for Speakers of Other Languages (ESOL) and digital skills, meaning that maths provision must compete with these other areas for a share of local allocations.<sup>31</sup>

The House of Lords Science and Technology Committee, writing to the Education Secretary in May 2025, raised concerns that the UK would have no flagship adult numeracy programme following Multiply's conclusion, and called for plans to fund a successor scheme

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<sup>27</sup> Department for Education, Department for Work and Pensions, and Department for Science, Innovation and Technology. Post-16 Education and Skills White Paper. Published October 20, 2025. <https://www.gov.uk/government/publications/post-16-education-and-skills-white-paper>

<sup>28</sup> Ibid

<sup>29</sup> Government Response to the Curriculum and Assessment Review. November 2025. [https://assets.publishing.service.gov.uk/media/690b2a4a14b040dfe82922ea/Government\\_response\\_to\\_the\\_Curriculum\\_and\\_Assessment\\_Review.pdf](https://assets.publishing.service.gov.uk/media/690b2a4a14b040dfe82922ea/Government_response_to_the_Curriculum_and_Assessment_Review.pdf)

<sup>30</sup> Department for Education. [Withdrawn] Multiply: Funding Available to Improve Adult Numeracy Skills. Published April 13, 2022. <https://www.gov.uk/government/publications/multiply-funding-available-to-improve-numeracy-skills>

<sup>31</sup> Ministry of Housing, Communities and Local Government. "UK Shared Prosperity Fund 2025-26: Technical Note." GOV.UK. First published 4 March 2025, updated 17 December 2025. <https://www.gov.uk/government/publications/uk-shared-prosperity-fund-prospectus/uk-shared-prosperity-fund-2025-26-technical-note>.

building on lessons learned from the programme.<sup>32</sup> Stakeholders in this research have echoed this position, arguing that Multiply's end has left a particular gap in flexible, community-based provision at the same time that AI upskilling has become a government priority.

Numeracy is also an unnamed foundation of the government's wider financial inclusion agenda. HM Treasury's Financial Inclusion Strategy, published in November 2025, sets out a national plan across six areas.<sup>33</sup> The areas include tackling problem debt and financial education, and commits to making financial education a compulsory part of primary schooling in England, delivered through a new statutory requirement to teach citizenship.<sup>34</sup> It also funds the modernisation of debt advice, including pilots using AI tools to expand adviser capacity.<sup>35</sup> Financial capability of this kind, namely budgeting, understanding credit and interest, and judging the outputs of AI-enabled financial tools, rests directly on numeracy.

Across the policies reviewed, numeracy appears as an implicit requirement rather than a named one. The AI Foundation Skills for Work benchmark, the PRIMES framework, the DfE's school AI pilots, the Media Literacy Action Plan, and the Treasury's Financial Inclusion Strategy each require numerical competence but do not identify it as such. At the same time, the only dedicated adult numeracy programme at national scale has lost its ringfenced funding with no successor in place.

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<sup>32</sup> House of Lords Science and Technology Committee, "Swift Intervention Needed to Address Maths Education Crisis in UK, Warn Lords Committee," May 2025, Parliament.UK <https://www.parliament.uk/business/lords/media-centre/house-of-lords-media-notice/2025/may-2025/swift-intervention-needed-to-address-maths-education-crisis-in-uk-warn-lords-committee/>

<sup>33</sup> HM Treasury. Financial Inclusion Strategy. 5 November 2025. <https://www.gov.uk/government/publications/financial-inclusion-strategy>

<sup>34</sup> Ibid

<sup>35</sup> HM Treasury. "Small Businesses Get Helping Hand with Strengthened Debt Advice." 4 June 2026. <https://www.gov.uk/government/news/small-businesses-get-helping-hand-with-strengthened-debt-advice>

## Section 3 – Summary of Findings

It is against this policy backdrop that this research set out to understand how AI and numeracy intersect in practice, drawing on stakeholder interviews, focus groups and a nationally representative online survey of over 2,000 UK adults aged 18-75. The findings are organised around three themes: AI's potential and the conditions for effective engagement; inequality in AI engagement and its consequences; and access to AI training and the content of existing provision.

### Theme 1 - AI's potential and the conditions for effective engagement

#### TOP LINES

- AI tools have significant potential to augment skills and broaden access to information, with particular implications for social mobility.
- Without deliberate effort, the groups that stand to gain most from AI's potential to broaden access to information, guidance and opportunity are the least likely to benefit from it.
- Output reliability is a significant concern. AI tools present information as accurate regardless of whether it is, and responses tend to confirm rather than challenge existing views.
- Critical thinking is the most important skill for effective AI engagement, and this is often numerical in nature. The connection between numeracy and AI literacy is not widely recognised.
- Many people overestimate their numerical ability. This leaves them less equipped to engage critically with AI outputs than they may realise.

#### 1.1 AI tools present significant opportunities to augment skills and broaden access to information, with potential implications for social mobility

Stakeholders highlighted the potential of AI tools to augment human capability: helping individuals engage more confidently with tasks they might otherwise find difficult, test and refine their own reasoning, and access information and guidance that would previously have required professional expertise or formal support. This potential is particularly significant from a social mobility perspective. The ability to access good information, navigate complex systems, and develop skills outside formal structures has historically been unevenly distributed across socioeconomic backgrounds. AI tools represent one of the most significant opportunities to begin addressing some of those disparities, provided the conditions for effective engagement are in place.

Stakeholders identified a range of contexts in which this potential could be realised, including:

### Task support

- Automating routine and repetitive tasks, reducing administrative burden and freeing time for more complex work
- Making unfamiliar or technically demanding tasks more manageable, by helping users work through them step by step
- Supporting individuals in engaging more comfortably with numerical or technical content

### Access to information and guidance

- Helping individuals understand complex technical information, such as financial or legal guidance, that might otherwise require professional support
- Supporting the navigation of official processes or administrative systems that can be difficult to engage with independently

### Learning and development

- Supporting skills development over time, allowing users to test their thinking, explore alternatives, and build understanding through repeated engagement
- Providing a space for experimentation and confidence-building, particularly for those who may find formal learning environments difficult

### Examples of AI Opportunities

- An OECD analysis combining worker-level performance data with sectoral exposure and adoption projections estimates that AI could deliver annual labour productivity gains of between 0.4 and 1.3 percentage points in the UK over the next decade, placing it among the highest-performing G7 economies. The pace of adoption and investment in AI-related skills are identified as the primary determinants of whether those gains are realised.<sup>1</sup>
- A meta-analysis of 23 experimental studies found that AI-based interventions in English as a Foreign Language education produce large, statistically significant gains in writing accuracy, speaking fluency, and motivation. Learners also reported reduced anxiety and greater engagement, suggesting benefits that extend beyond measurable skill acquisition.<sup>2</sup>
- A UK government evaluation of Microsoft 365 Copilot, involving 1,000 civil servants over six months, found overall satisfaction of 72%. Neurodiverse colleagues reported statistically significantly higher satisfaction than other users, while non-native English speakers cited improvements to wellbeing, technical confidence, and career prospects.<sup>3</sup>

*Figure 1: Examples of AI Opportunities: (1) Filippucci, Gal, Laengle and Schief, "Macroeconomic Productivity Gains from Artificial Intelligence in G7 Economies," OECD Artificial Intelligence Papers No. 41, June 2025 (2) Ekizer, "Exploring the Impact of Artificial Intelligence on English Language Teaching: A Meta-Analysis," Acta Psychologica 260, October 2025 (3) Department for Business and Trade, Microsoft 365 Copilot Pilot: DBT Evaluation Report, August 2025*

Stakeholders also identified potential for groups who face structural barriers to accessing education and professional support, including neurodivergent individuals, those for whom English is an additional language, and those with limited prior access to formal education. For these groups, tools that can adapt to different ways of engaging and provide support outside formal settings and timetables may be of particular value.



I have direct feedback from talking to public sector clients on AI adoption. Wellbeing came up as a significant theme, with people saying things like "I feel much more in control" and "I feel much less stressed". We had neurodivergent people and people with English as a second language saying it removes this huge cognitive load.

*Professional Services firm*



However, none of these benefits are guaranteed, and without deliberate effort they are unlikely to reach the groups who stand to gain the most, and who have historically had least access to the information, guidance, and support that AI tools could provide. Stakeholders raised significant concerns about the reliability of AI outputs and the skills required to engage with them critically.

## 1.2 Concerns around output reliability mean critical thinking is the most important skill for AI engagement

AI tools often present information as accurate and complete regardless of whether it is, and do not signal uncertainty or indicate when a response may be wrong. For example, an evaluation of AI assistants by the BBC and European Broadcasting Union found that 45% of all AI responses contained at least one 'significant' issue: 31% of all responses had issues with sourcing, 20% with accuracy, and 14% with providing sufficient context.<sup>36</sup>

Several characteristics compound this problem:

- Response quality is highly sensitive to how a question is framed: similar prompts can yield substantially different answers, making consistency difficult to rely on.
- Outputs tend to be confirmatory, reinforcing what a user already believes rather than challenging it.
- The limited transparency of many models means that when an error is identified, tracing where and why it occurred can be difficult even for technically skilled users.



The clarity of a prompt and the precision of the wording you are using to try and get the answer you are looking for is important as one question can come up with some very different answers.

*Software Company*



Stakeholders also raised concerns about the data used to train AI models. Training datasets are often drawn from existing digital sources, which may themselves reflect historical inequalities, underrepresent certain groups, or contain inaccuracies. Where the underlying data is skewed, AI outputs can reproduce or amplify those skews, sometimes in ways that are not immediately visible to the user. There are documented examples of AI systems producing outputs that reflect bias along racial, gender, and cultural or geographic lines, including in contexts such as recruitment, healthcare, and financial services.

<sup>36</sup> BBC and EBU. News Integrity in AI Assistants: An International PSM Study. October 2025.  
<https://www.ebu.ch/research/open/report/news-integrity-in-ai-assistants>

Critical thinking is therefore the most important skill for engaging with AI safely and effectively. In this context, critical thinking means the capacity to interrogate an output rather than accept it at face value: asking whether a response is plausible, whether it is consistent with other sources of knowledge, what may have been omitted, and whether the way a question was framed might have shaped the answer received.

In practice, many users may not approach AI outputs in this way. Survey data from this project suggests that respondents are more likely to trust than distrust the accuracy of AI outputs: 56% report trusting that the information AI provides is accurate, against 36% who do not and 9% who don't know.<sup>1</sup> Given what is known about the limitations of these tools, this level of trust is a cause for concern.

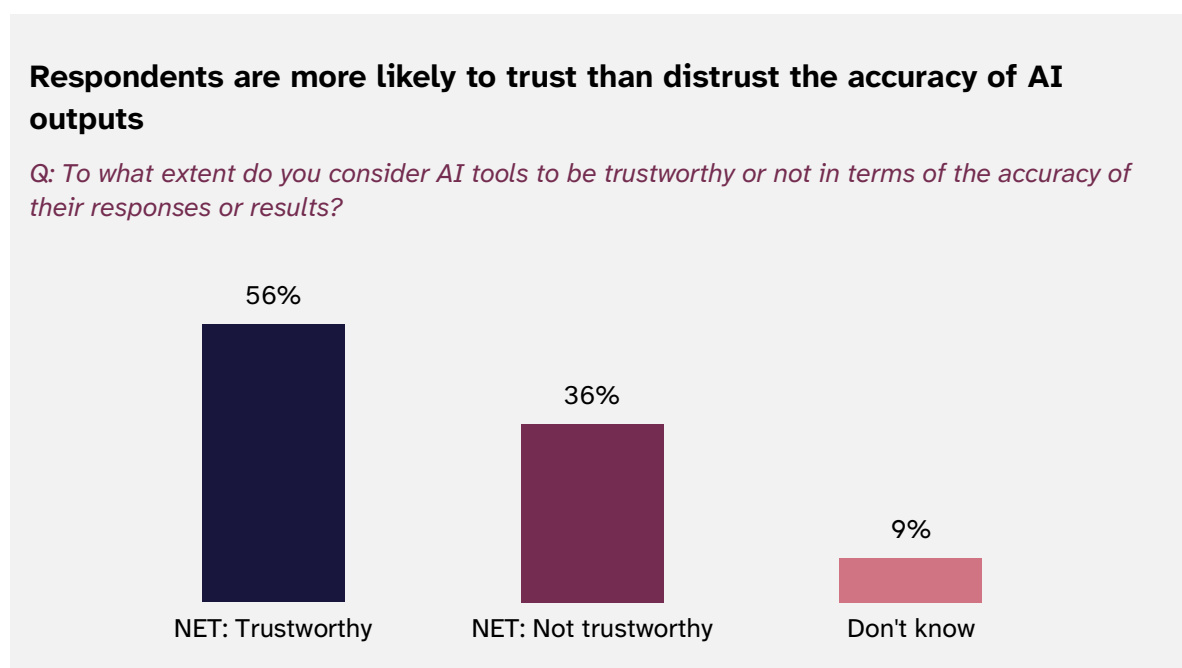


Figure 2: Respondent perceptions of AI tool trustworthiness. Question: "To what extent do you consider AI tools to be trustworthy or not in terms of the accuracy of their responses or results?" Base: UK adults aged 18-75, aware of any AI tools n=1,958. Fieldwork conducted April 2026 by Ipsos.

### 1.3 The role of numeracy in critical thinking and AI literacy is not widely recognised

The critical thinking skills identified in the previous section are, in practice, often numerical in nature. Even where a task appears entirely qualitative, AI tools generate responses drawing on probabilistic pattern matching. Assessing whether an output is plausible, recognising that a response may be expressing a statistical likelihood rather than a definitive fact, or identifying whether a figure seems consistent with other knowledge all require a grounding in numeracy. Stakeholders highlighted specific competencies as particularly relevant: a sense of scale and magnitude, an understanding of proportions and percentages, and basic statistical literacy including an understanding of probability.



I think the crucial thing for people to understand is what AI is good for and what it's not. And I think one prerequisite to that is probabilistic thinking. I think it must be hard to understand what AI gives you if you think all answers are either true or false.

Trade Union



This connection between numeracy and critical AI engagement is not widely recognised. Survey data from this project suggests that respondents aware of any AI tools, are considerably more likely to see literacy as a prerequisite for AI use than numeracy. Only 25% of respondents think good numeracy skills are needed to use AI tools, while 36% disagree and 32% are neutral.<sup>ii</sup> Views on literacy are notably different: 42% think good literacy skills are needed, compared with 25% who disagree and 27% who are neutral.<sup>iii</sup> This likely reflects a tendency to understand AI primarily as a language-based technology, which sits at odds with what the evidence suggests about the numerical foundations of critical engagement.

### Respondents are more likely to see literacy as a prerequisite for AI use than numeracy

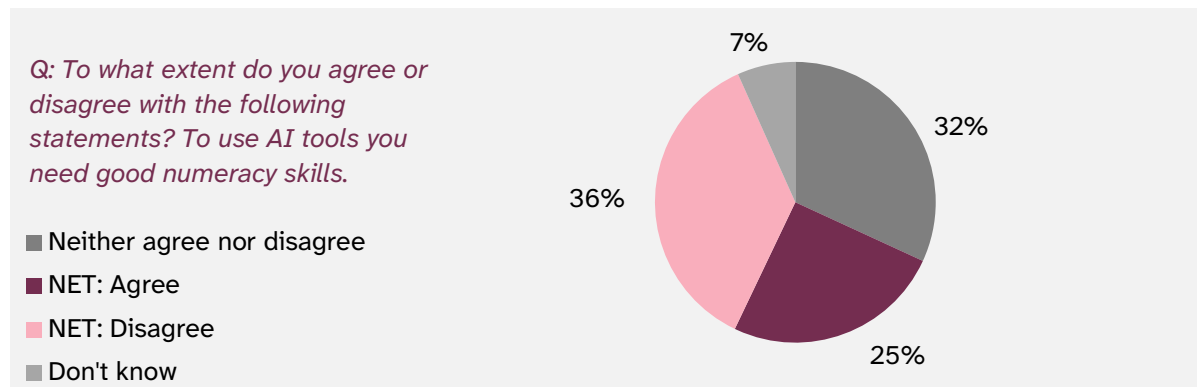


Figure 3: Respondents are more likely to see literacy as a prerequisite for AI use than numeracy. Question: To what extent do you agree or disagree with the following statements? To use AI tools you need good numeracy skills. Base: UK adults aged 18-75, aware of any AI tools n=1958. Fieldwork conducted April 2026 by Ipsos.

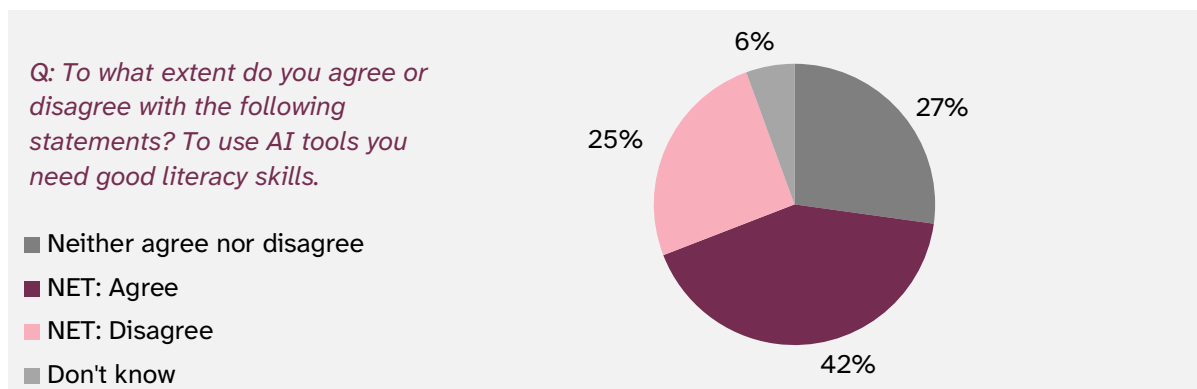


Figure 4: Respondents are more likely to see literacy as a prerequisite for AI use than numeracy. Question: To what extent do you agree or disagree with the following statements? To use AI tools you need good literacy skills. Base: UK adults aged 18-75, aware of any AI tools n=1958. Fieldwork conducted April 2026 by Ipsos.

The respondents who are aware of any AI tools and least likely to agree that numeracy is relevant to AI use are those in lower socioeconomic grades, those without graduate-level education, and those in older age groups:

- By socioeconomic grade: net agreement ranges from 35% among AB (higher socioeconomic status) respondents to 18% among DE (lower socioeconomic status) respondents.<sup>iv</sup>
- By education: graduates report net agreement of 35% compared to 20% of non-graduates, a fifteen-percentage point gap.<sup>v</sup>
- By age: agreement declines from 37% among respondents aged 18 to 24 and 25 to 34, to 25% among 35 to 44 year olds, 19% among 45 to 54 year olds, and 17% among 55 to 75 year olds.<sup>vi</sup>

These are the same groups most likely to face wider disadvantage in numeracy and digital engagement, and least well placed to build the skills needed for critical AI engagement independently.

#### **1.4 Many people overestimate their numerical ability, with implications for AI engagement**

Survey data from this project suggests that respondents' confidence varies by task. Confidence is highest in understanding charts, graphs and tables (80% net confident) and spotting implausible figures (79%). It is lower on tasks involving calculation or magnitude: 72% report net confidence in working out percentages, fractions or proportions, and 72% in making sense of very large or very small numbers.<sup>vii</sup> These are precisely the skills stakeholders identified as most relevant to critical AI engagement. However, it is worth noting that these figures reflect respondents' own assessments of their ability rather than demonstrated competence.

Self-reported confidence in numeracy tends to overstate actual skill levels, suggesting that the proportion of respondents genuinely equipped to perform these tasks is likely lower than these figures imply. The Richmond Project's Number Nation 2026 report, drawing on a survey of 8,021 UK adults, found that only around 40% of adults scored highly on a numerical competency index, while 60% assessed their own abilities as high.<sup>37</sup> The authors describe this gap of approximately 17 to 20 percentage points as near-universal across demographic groups, though its scale varies: among lower socioeconomic grade women with children, 42% reported good competency while only 20% demonstrated it in practice.<sup>38</sup> The report also noted that overestimating one's ability reduces the likelihood of seeking support.

These patterns of overconfidence are also not evenly distributed across respondent groups. The gaps between respondent groups on these tasks are considerable. Survey data from this project indicates a gap of around 20 percentage points between AB (higher socioeconomic status) and DE (lower socioeconomic status) respondents on percentages and fractions, with

<sup>37</sup> The Richmond Project. Number Nation: Understanding the UK's Relationship with Everyday Numbers. London: The Richmond Project, January 2026. <https://richmondproject.org/wp-content/uploads/2026/01/The-Richmond-Project-Number-Nation-2026.pdf>

<sup>38</sup> Ibid.

AB respondents nearly twice as likely as DE respondents to feel ‘very confident’ on questions of scale.

## Most respondents feel confident working with percentages, fractions and proportions, though confidence is markedly lower among DE respondents

*Q: How confident, if at all, do you feel doing each of the following? Working out calculations involving percentages, fractions, or proportions (By socioeconomic grade)*

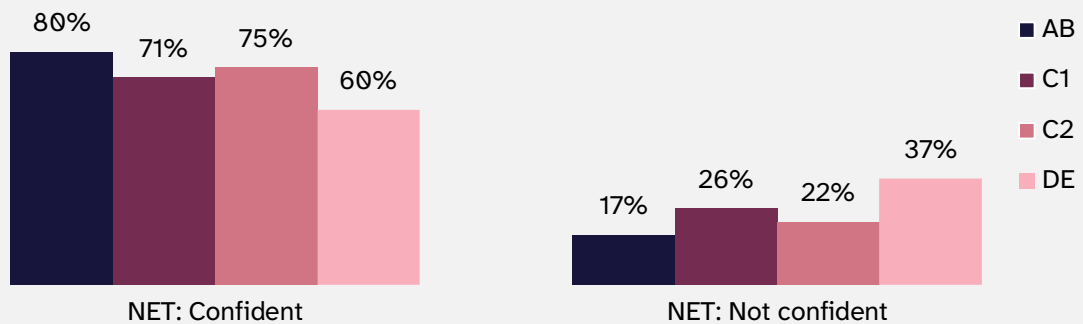


Figure 5: Most respondents feel confident working with percentages, fractions and proportions, though confidence is markedly lower among DE respondents. Q: How confident, if at all, do you feel doing each of the following? Working out calculations involving percentages, fractions, or proportions chart is broken down by socioeconomic grade.. Base: UK adults aged 18-25, n=2069. Fieldwork conducted April 2026 by Ipsos. AB n=745, C1 n=599, C2 n=290, DE n=435

## Most respondents feel confident making sense of very large or very small numbers, though confidence is markedly lower among DE respondents

*Q: And how confident, if at all, do you feel doing each of the following? Making sense of very large or very small numbers (for example, knowing what a figure in the millions or a fraction of a percent actually means) (By socioeconomic grade)*

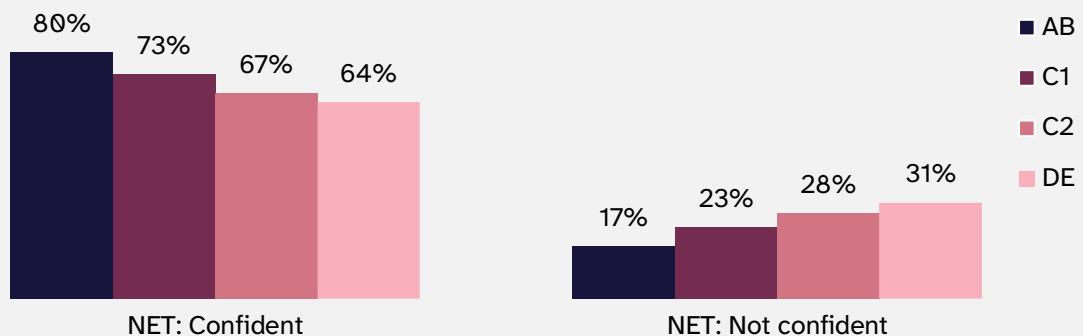


Figure 6: Most respondents feel confident making sense of very large or very small numbers, though confidence is markedly lower among DE respondents. Q: And how confident, if at all, do you feel doing each of the following? Making sense of very large or very small numbers (for example, knowing what a figure in the millions or a fraction of a percent actually means) chart is broken down by socioeconomic grade. Base: UK adults aged 18-75, n=2069.. Fieldwork conducted April 2026 by Ipsos.

In the context of AI use, both findings are important. AI tools produce responses that appear complete and authoritative regardless of their accuracy and do not consistently provide a signal to prompt a user to question whether their assessment of an output is sufficient. Where people overestimate their numerical ability, they are likely to also overestimate their capacity to identify when an output needs closer examination. That risk is most acute among the groups this section identifies as least confident on the tasks most relevant to critical AI engagement. For people from lower socioeconomic backgrounds, who are least likely to have access to alternative sources of advice or support when an AI output is wrong, the consequences of that overconfidence are greatest. Limited numerical competence, combined with the absence of any prompt from the tool to interrogate a response, may leave users less equipped to engage critically than they realise.

## Theme 2 - Inequality in AI engagement and its consequences

### TOP LINES

- Over-reliance on AI for numeracy tasks risks eroding the skills needed to evaluate its outputs. Where people routinely use AI to complete numeracy tasks rather than working through them directly, this can become self-reinforcing.
- Two groups face particular consequences: those using AI without the skills to evaluate what it produces, and those who are aware of AI but not yet using it. Both skew towards people already experiencing socioeconomic disadvantage.
- Among respondents who have used AI tools, 77% consider them trustworthy in the accuracy of their responses, a level of confidence that sits at odds with what is known about output reliability.
- Awareness of AI tools is high at 94%, but only 53% of respondents have used them. Non-use is most pronounced among older respondents and those in lower socioeconomic grades.
- Expanding access to AI tools without also building numeracy and critical thinking skills is unlikely to close existing gaps, and risks moving people from non-use into uncritical use.

### 2.1 Over-reliance on AI for numeracy tasks may risk eroding the numeracy skills needed to evaluate its outputs

The skills gap identified in the previous section may be deepened by the way people engage with AI tools. Some research suggests that habitual reliance on AI for tasks involving reasoning or recall may reduce the mental engagement through which skills are built and maintained, and stakeholders raised this concern specifically in relation to numeracy.

#### Examples of the Risks of AI Overuse

- A study conducted by MIT shows that people who used a LLM to write essays showed less activity in brain networks associated with cognitive processing than those who did not. They suggest a possible reduction in cognitive load and decrease in learning skills as a result of LLM use.<sup>1</sup>
- A survey of 319 knowledge workers (predominantly professional and graduate-level) by researchers at Carnegie Mellon University and Microsoft Research found that higher confidence in generative AI tools was associated with reduced critical thinking effort. Rather than verifying outputs or questioning responses, users with greater trust in the tool tended to accept what it produced. In contrast, users with higher confidence in their own abilities were more likely to engage critically with AI-generated content.<sup>2</sup>
- A survey of 2,000 UK secondary school pupils conducted by Oxford University Press found that six in ten respondents felt AI had negatively impacted their skills in relation to schoolwork, with a quarter reporting that AI made it too easy to complete work and one in ten noting that it limited their creative thinking.<sup>3</sup>

*Figure 7: (1) Kosmyna, N, Hauptmann, E, Tony Yuan, Y., Situ, J., Liao, XH., Beresnitzky, A.V., Braunstein, I., Maes, P. MIT. Your Brain on ChatGPT: Accumulation of Cognitive Debt when Using an AI Assistant for Essay Writing Task. 2025. (2) Hao-Ping (Hank) Lee, Advait Sarkar, Lev Tankelevitch, Ian Drosos, Sean Rintel, Richard Banks, and Nicholas Wilson, "The Impact of Generative AI on Critical Thinking: Self-Reported Reductions in Cognitive Effort and Confidence Effects from a Survey of Knowledge Workers," in Proceedings of the 2025 CHI Conference on Human Factors in Computing Systems. 2025. (3) Oxford University Press, Teaching the AI-Native Generation. 2025*

Where individuals routinely use AI to complete tasks requiring numeracy rather than working through them directly, the skills needed for critical assessment may weaken over time. This could become self-reinforcing: stakeholders from this project suggested reduced engagement with numeracy might reduce the ability to evaluate AI outputs, which could increase dependence on the tools, which could further limit the development of those skills.

A related concern is whether, if AI handles tasks requiring numeracy from the outset, whether the underlying skills would be developed at all. Stakeholders suggested that meaningful engagement with an AI output involving numeracy depends on some familiarity with the method behind it, not only the capacity to read a result. Working through a calculation or problem manually, even imperfectly, could build the kind of intuition that enables a person to judge whether an answer is in the right range. Where that intuition has never been developed, an AI output may appear equally plausible whether it is correct or not.

“

I think about when calculators became the norm. They can do simple numerical operations a lot faster for you but the question was can students tell whether the answer they're getting is in the right ballpark? And that's not to do with the computer, or the calculator, but their own estimating skills. And AI is so much more powerful than a calculator.

”

*Further Education Sector Body*

“

When you haven't done something yourself, you don't have the mental scaffolding to understand the process. For example, if you have never done division, it becomes much harder to judge whether a division answer is correct

*Consumer Services company*

”

The skills gained in working through a problem requiring numeracy also extend beyond arriving at the correct answer. Engaging with a calculation builds pattern recognition, logical sequencing, and the capacity to estimate and check. Outsourcing these tasks to AI, particularly before those skills have been developed, could risk losing this wider learning.

“

When you learn numeracy, you walk away not just with knowledge of numbers but with a whole set of mental structures that guide you well beyond maths. So maths isn't just maths, and numeracy isn't just numeracy. It's the process of learning numeracy that also builds a broader range of skills

*Professional Services firm*

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Stakeholders noted, however, that the relationship between numeracy and AI use is not only a source of risk. Greater familiarity with numbers could increase willingness to question AI outputs, and more critical engagement with those outputs could in turn build numeracy confidence. Where the two develop together, they could reinforce each other. The concern from stakeholders in this research was that without deliberate investment in numerical skills, AI may increasingly substitute for them rather than support their development.

“

I think that having good numeracy skills translates into curiosity and questioning. It makes you want to ask questions.

*Financial Services firm*

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## 2.2 Without intervention, AI risks compounding existing disadvantage

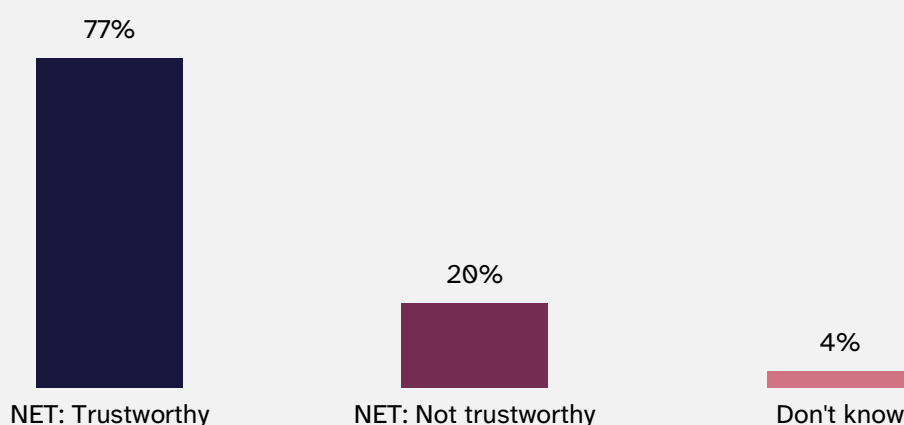
The risks identified in earlier sections do not affect all users in the same way. Two groups face particular consequences, each shaped by the same underlying gap in numeracy and critical thinking skills.

1. **Engaged non-critical:** people who are using AI tools but lack the skills to evaluate what the tools produce, and may accept outputs without question in areas that matter.
2. **Aware but disengaged:** people who are aware of AI tools but are not using them, often due to low confidence or anxiety, and who risk being left behind as AI becomes more embedded in work and everyday life.

The first group uses AI but without the numeracy skills needed to assess what the tools produce. This means they may accept outputs at face value in consequential areas of their lives, including financial decisions, health information, or educational support, without being able to identify when something is inaccurate, incomplete, or biased. These are also the areas in which people from lower socioeconomic backgrounds are least likely to have access to alternative sources of advice or support, making the consequences of accepting an inaccurate output particularly significant. The gap matters not only for individual decisions but for longer-term prospects: where people from lower socioeconomic backgrounds rely on AI without the skills to question it, they may be making consequential choices about finances, employment and education on the basis of outputs they may not be properly equipped to evaluate. Survey data from this project points to the scale of this risk: among respondents who have used AI tools, 77% consider them trustworthy in the accuracy of their responses (20% not trustworthy, <4% don't know).<sup>viii</sup> Given what is known about the reliability of AI outputs, this level of trust is a cause for concern.

### Among respondents who have used AI tools, over 3 in 4 find them trustworthy

*Q: To those that are aware and have used AI tools, to what extent do you consider AI tools to be trustworthy or not in terms of the accuracy of their responses or results?*



*Figure 8: Perceptions of AI tool trustworthiness among respondents who have used AI tools. Questions: "Are you aware of any of these AI tools, or not?" and "To what extent do you consider AI tools to be trustworthy or not in terms of the accuracy of their responses or results?" Chart shows net trustworthy and net not trustworthy responses among those who reported having used AI tools. Base: UK adults aged 18–75 who reported having used AI tools, n=1151. Fieldwork conducted April 2026 by Ipsos.*

The second group is aware of AI tools but does not use them, often because the same complexity that leads to uncritical reliance in some could produce avoidance in others. This

group is sizeable within this sample: while 94% of respondents report awareness of AI tools, only 53% have used them, leaving 41% who are aware but have not used them.<sup>ix</sup>

The pattern is most pronounced among older respondents: among those aged 55 to 75, only 31% have used AI tools while 61% are aware but have not, a ratio close to the inverse of younger cohorts.<sup>x</sup>

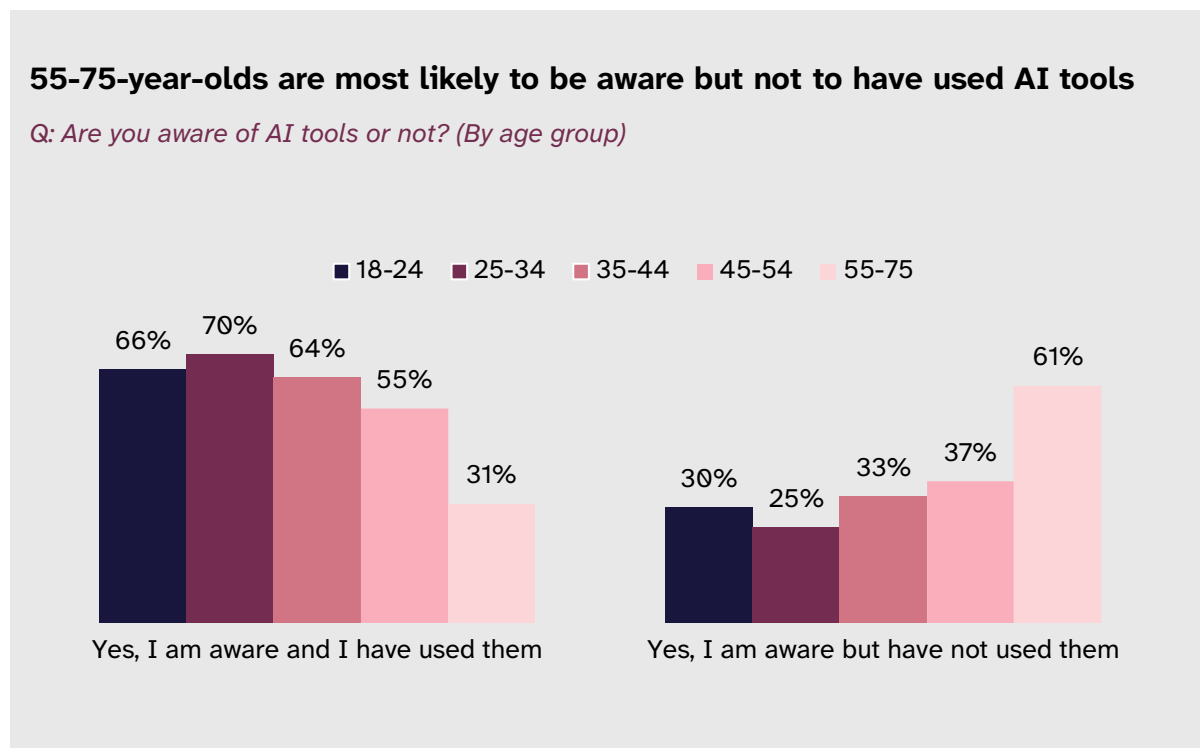


Figure 9: AI tool awareness and usage among those aware of AI tools, by age group. Question: "AI-powered tools are a type of artificial intelligence which can create content, such as images, text, audio, etc. Examples of these tools are ChatGPT, Google's Gemini, Microsoft Copilot, etc. Are you aware of any of these AI tools, or not?" Chart shows respondents who indicated awareness, broken down by whether they had used AI tools, by age group. Base: UK adults aged 18–75 who indicated awareness of AI tools,  $n=2,069$ . Fieldwork conducted April 2026 by Ipsos.

The socioeconomic picture is equally stark. 70% of AB (higher socioeconomic status) respondents have used any AI tools, compared to 52% of C1, 49% of C2, and 36% of DE (lower socioeconomic status) respondents.<sup>xi</sup> Among those who have used AI tools, the gap extends to frequency: 62% of AB (higher socioeconomic status) respondents report using them at least weekly for personal purposes, compared to 34% of DE (lower socioeconomic status) respondents.<sup>xii</sup> As AI becomes more embedded in workplaces and everyday services, those who are not using it risk falling further behind in both skills and opportunity.

## Lower socioeconomic grades are more likely to be aware but to not have used AI tools

Q: Are you aware of any of these AI tools or not? (By socioeconomic grade)

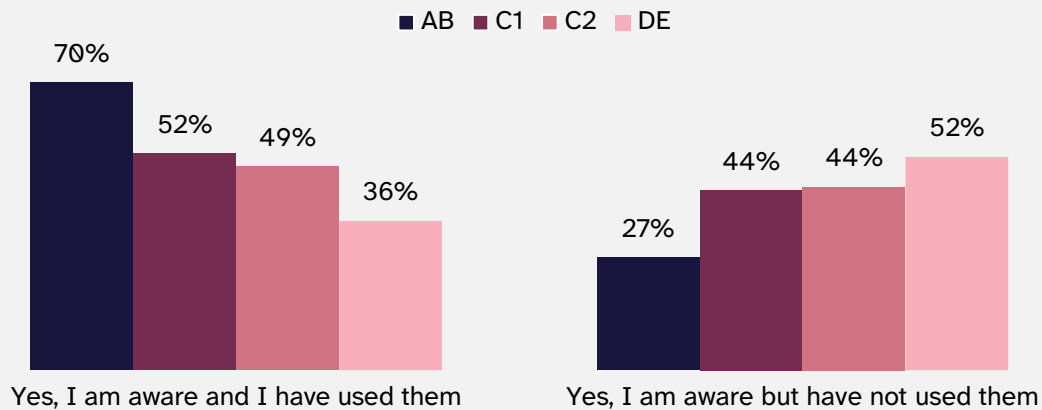


Figure 10: AI tool awareness and usage among those aware of AI tools, by socioeconomic grade. Question: "AI-powered tools are a type of artificial intelligence which can create content, such as images, text, audio, etc. Examples of these tools are ChatGPT, Google's Gemini, Microsoft Copilot, etc. Are you aware of any of these AI tools, or not?" Chart shows respondents who indicated awareness, broken down by whether they had used AI tools, by socioeconomic grade. Base: UK adults aged 18–75 who indicated awareness of AI tools, n=2,069. Fieldwork conducted April 2026 by Ipsos. See Annex for full breakdown of socioeconomic grades. AB n=745, C1 n=599, C2 n=290, DE n=435

A further consideration is that some within the non-using group may believe they are avoiding AI while in practice encountering it without their awareness. AI functionality is increasingly embedded within mainstream platforms and services, meaning some people who consider themselves non-users may nonetheless be engaging with AI-driven outputs, without the awareness or context to evaluate them critically.

Both groups are disproportionately likely to include people already experiencing socioeconomic disadvantage. Access barriers, including limited internet connectivity, suitable devices, and the cost of paid AI platforms, add a further layer, leaving those least equipped to navigate the risks of AI use also least able to access its benefits.

“

What AI could do is drive a greater wedge between those that have and have not. Just like we've seen with the difference on the financial side with inclusion and exclusion, we've seen it through digital inclusion and exclusion.

Financial Services firm

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### 2.3 Expanding access to AI tools alone will not close these gaps

Expanding access to AI tools, particularly for those who are aware of them but not yet using them, might seem like a natural policy response to the patterns identified above. But moving people into use without also building the skills needed to question and check AI outputs

risks making the problem worse, not better: individuals may shift from not using AI to using it uncritically, without the skills to assess what those tools produce.

Extending access without investment in numeracy and critical thinking is therefore unlikely to close existing gaps. The value someone gets from an AI tool depends heavily on their ability to use it well. A person who can assess whether an answer seems plausible, notice when something important has been left out, or recognise when a figure looks wrong is in a much stronger position than someone who accepts outputs without question. Numeracy is central to this: many of the errors and limitations in AI outputs involve numbers, statistics, or quantitative reasoning, and without a basic grounding in these areas, users are poorly placed to catch mistakes or identify misleading information.

“ You can’t turn someone who’s not doing well into a high performer with AI alone. I think AI will exacerbate poor performance and enhance people who are already performing well.

*University Health Informatics Institute*

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“ AI accelerates people who are already good at their jobs: people who know how to use the tools and craft intelligent prompts. But there are a whole lot of people who don't know how to do that, and who just take the outputs at face value. The gap between those two groups keeps getting broader

*Professional Services firm*

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Without action on both skills and access, AI could entrench existing inequalities rather than address them, and the potential of AI to support social mobility could remain out of reach for the people who stand to gain most from it.

## Theme 3 – AI training and provision across education and work

### TOP LINES

- Formal education and workplace training are both struggling to keep pace with the speed of AI development, leaving teachers, employees, and SMEs without adequate support to engage with AI tools confidently.
- In the absence of structured provision, most people are learning to use AI tools through trial and error. Among respondents who have used AI tools, 65% report learning primarily by interacting with the tools themselves.
- Access to formal training follows existing patterns of advantage. AB (higher socioeconomic status) respondents are 2.5 times more likely than DE (lower socioeconomic status) respondents to have accessed employer training, meaning those least likely to build AI skills informally are also least likely to have formal alternatives.

- Where formal training does exist, it tends to focus on functional use rather than the technical understanding needed to engage with AI outputs critically. Understanding how AI tools work is strongly associated with confidence in using them: 82% of respondents who understand how AI generates answers feel confident in their skills, compared to 25% of those who do not.
- Numeracy is a foundational component of the technical understanding that current provision is missing. Probabilistic reasoning and the capacity to interpret outputs with appropriate scepticism are grounded in numeracy, and should be treated as a cross-cutting priority in training design.

### 3.1 Education and workplace training are both struggling to keep pace with AI

Formal education and workplace training are both struggling to keep pace with the speed of AI development. Curriculum design, regulatory frameworks, and institutional responses are all adapting more slowly than the technology is evolving. Curriculum and regulatory processes have long, formal design cycles that are structurally slow to respond to rapid technological change, and assessment frameworks have not yet adapted to account for AI, limiting how much practitioners can change their approach even where the willingness exists. The position of teachers is a particular pressure point. Many have had limited time or structured support to develop their own familiarity with AI tools at the pace their students are already adopting them, making it difficult for them to model or guide effective engagement. Those pressures are most acute in schools serving more disadvantaged communities, where workload, funding constraints, and staff turnover are typically greatest, meaning the teachers who most need support to engage with AI are least likely to receive it.

“ Teachers need to be comfortable and familiar with AI first. But the trouble is of course, meanwhile students are getting comfortable and familiar with it in a different setting. We're all co-evolving in a world which is changing rapidly.

*Further Education Sector Body*

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### Examples of AI adoption in schools

- A survey of more than 14,000 voices across the UK education landscape finds that 44% of secondary teachers and 31% of primary teachers believe students are not adequately equipped for the impact of AI. Only 9% of teachers feel confident teaching it, and 23% are not confident using it themselves, while 42% say AI should be included in teacher training.<sup>1</sup>
- A DfE-commissioned study of 21 early-adopter schools and colleges finds that AI adoption in England remains largely experimental, with no conclusive evidence yet on its ability to improve learning outcomes. Of teachers not yet using AI tools, 64% say they do not know enough about AI to use it in their role, and most early-adopting leaders were still at the early stages of developing a longer-term strategy for embedding AI into teaching and learning.<sup>2</sup>
- The Tony Blair Institute finds that only one in five teachers reports that anyone at their school teaches pupils how AI works, and just one in ten integrates AI into subject teaching. Independent schools are three times more likely than state schools to have a school-wide AI strategy, and schools with larger disadvantaged cohorts are less likely to teach pupils about AI or use it in class. The pupils least likely to be learning about AI are therefore those in the schools serving the most disadvantaged communities, meaning the gap in AI literacy is already tracking existing patterns of educational inequality.<sup>3</sup>

*Figure 3: (1) Pearson, Pearson School Report 2025, December 2025, (2) Ofsted, AI in Schools and Further Education: Findings from Early Adopters, June 2025, (3) Tony Blair Institute for Global Change, Generation Ready, September 2025. Figure 11: (1) Pearson, Pearson School Report 2025, December 2025, (2) Ofsted, AI in Schools and Further Education: Findings from Early Adopters, June 2025, (3) Tony Blair Institute for Global Change, Generation Ready, September 2025.*

“

Teachers are in the classroom 35 hours a week doing their PPA or desperately trying to catch up with marking and other workload problems... They haven't got time to even really think about the size of the problem. They don't even know how big the problem is.

*Higher Education Institution*

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The same pattern is visible in workplace settings, where organisations range from those with structured AI policies and training to those adopting tools informally, with little guidance on appropriate use or the support available to employees. A concern that emerged consistently across interviews is the anxiety surrounding AI adoption at work. Concerns about job displacement, whether or not well-founded in any particular setting, may reduce employees' willingness to engage with AI tools or to seek support in developing their skills. This anxiety is likely to be most acute among workers in routine or lower-skilled roles, who face the greatest exposure to automation and have the least access to retraining, compounding the disadvantage already identified in earlier sections.

A related issue is the gap between personal and professional AI use. Some employees who use AI tools comfortably in their personal lives report feeling less confident or less permitted to do so at work, where norms around appropriate use may be unclear or not yet established. Survey data from this project illustrates this: among respondents who have used AI tools,

87% report doing so for personal purposes, a figure that is broadly consistent across respondent groups. Workplace use stands at 50% overall but varies across education, age, and gender:

- By education: 60% of graduate respondents report using AI at least weekly at work, compared to 48% of non-graduate respondents.<sup>xiii</sup>
- By age: 50% of 18 to 24 year old respondents report using AI at work at least weekly compared to 67% for 25 to 34 year old, 55% for 35 to 44 year old, 48% for 45 to 54 year old and 40% for 55 to 75 year old respondents, a range of twenty seven percentage points.<sup>xiv</sup>
- By gender: 57% of male respondents report using AI at work at least weekly, compared to 54% of female respondents.<sup>xv</sup>

### Lower socioeconomic grades are less likely to use AI tools at work

*Q: For which of the following purposes have you used any AI tools in the last 6 months. To those that have used AI tools. Broken down by socioeconomic grade.*

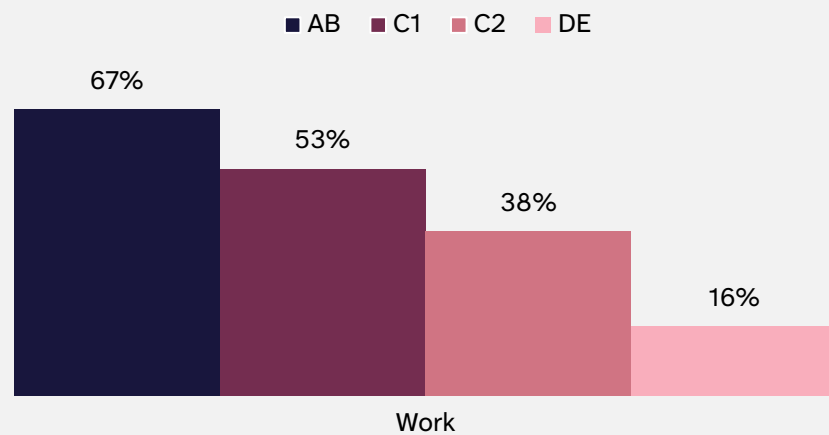


Figure 12: Workplace use of AI tools among users, by socioeconomic grade. Questions: "Are you aware of any of these AI tools, or not?" and "For which of the following purposes have you used any AI tools in the last 6 months?" Chart shows the proportion of respondents who have used AI tools selecting "Work" as a purpose, by socioeconomic grade. Base: UK adults aged 18–75 who reported having used AI tools, n=1151. Fieldwork conducted April 2026 by Ipsos. See Annex for full breakdown of socioeconomic grades. AB n=525, C1 n=323, C2 n=140, DE n=163



We're in a world where people are using an iPhone and ChatGPT at home, but then go into the office and don't use AI at all. That gap needs to be bridged. The confidence and understanding required to use these tools effectively is itself a skill, and training is needed to develop it.

*Professional Services firm*



These pressures are most pronounced for SMEs, where limited capacity, time, and budget make structured AI training difficult to prioritise even where the need is recognised. Only

25% of UK businesses, predominantly SMEs, are currently using AI, while 43% have no plans to do so.<sup>39</sup>

### 3.2 AI skills are being acquired primarily through self-directed learning, with formal provision reaching only a minority

A concern raised across stakeholder interviews is that, in the absence of structured provision, most people are learning to use AI tools through trial and error. Survey data from this project bears this out: among respondents who have used AI tools, 65% report learning primarily by interacting with the tools themselves, and 35% through their own research. Formal routes account for a considerably smaller share, with 14% learning through employer training and 6% through an educational course.<sup>xvi</sup>

#### AI skills are being acquired primarily through self-directed learning

*Q: Among those who have used AI tools, Which of the following, if any, best describes how you have learned to use AI-powered tools?*

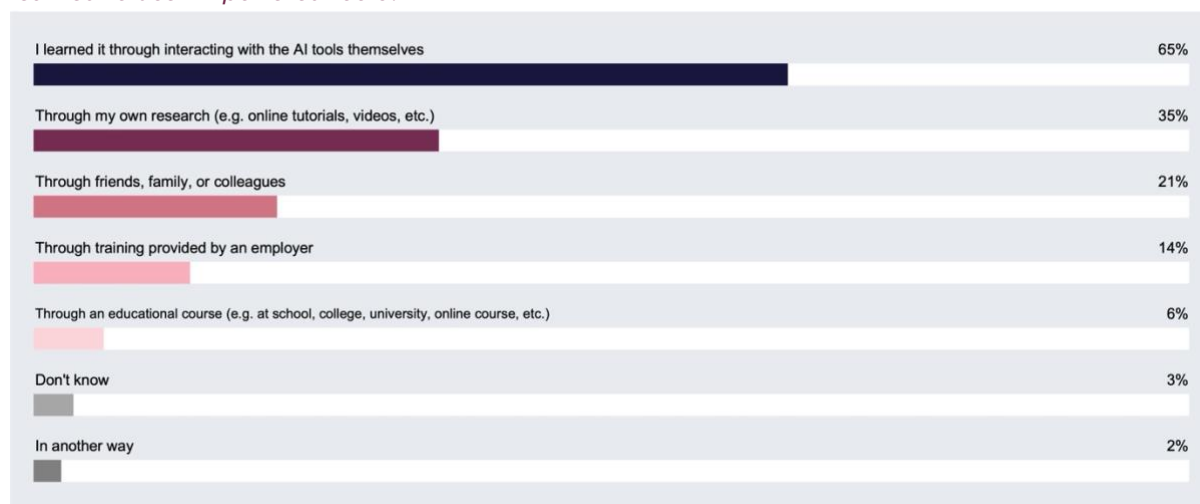


Figure 13: How respondents report having learned to use AI tools. Questions: "Are you aware of any of these AI tools, or not?" and "Which of the following, if any, best describes how you have learned to use AI-powered tools?" Chart shows responses among those who reported having used AI tools. Respondents could select all that apply. Base: UK adults aged 18–75 who reported having used AI tools, n=1,151. Fieldwork conducted April 2026 by Ipsos. Figures do not sum to 100% as respondents could select multiple options.

Self-directed learning, while widespread, is unlikely to develop the consistent or critical AI skills that more structured provision could support. Those with the confidence, time, or motivation to experiment will accumulate skills through this route; those who are hesitant, unfamiliar, or time-poor are less likely to do so.

Access to formal training follows the same pattern. Survey data from this project suggests that employer training and educational courses are considerably more common among respondents from more advantaged groups. AB (higher socioeconomic status) respondents are 2.6 times more likely than DE (lower socioeconomic status) respondents to have accessed employer training (18% vs 7%), with access to educational courses following a similar pattern (10% for AB respondents against 1% for DE respondents).<sup>xvii</sup> The groups least

<sup>39</sup> British Chambers of Commerce and Pertemps, Employment Trends Report 2024 (London: British Chambers of Commerce, July 2024), [https://www.britishchambers.org.uk/wp-content/uploads/2024/07/BCC\\_PERTEMPS\\_REPORT\\_FINAL.pdf](https://www.britishchambers.org.uk/wp-content/uploads/2024/07/BCC_PERTEMPS_REPORT_FINAL.pdf).

likely to be building AI skills through self-directed learning are therefore also the least likely to have access to formal alternatives. This is where the AI skills gap is likely to widen most, and where the consequences for social mobility are most direct: the workers least equipped to engage critically with AI are those with fewest alternative routes to building those skills. Without structured provision that actively reaches people in lower socioeconomic groups, the gap in AI skills is likely to track and reinforce existing inequalities in earnings and opportunity.

### 3.3 Existing training focuses on functional use rather than the technical understanding needed to engage critically with AI

Stakeholders noted that even where people are able to access formal training, provision in both workplace and educational settings tends to focus on functional AI skills rather than technical ones. Functional skills refer to the basic ability to interact with an AI tool: knowing how to frame a query, navigate an interface, or incorporate a tool into an existing workflow. Technical skills, by contrast, refer to a broader understanding of how AI systems generate outputs: what these tools are drawing on, how they reach a response, and what that means for the reliability and limitations of what they produce.

A working understanding of how AI systems generate outputs is, in significant part, a numerical one: probabilistic reasoning, an understanding of how statistical patterns shape responses, and the capacity to interpret outputs with appropriate scepticism are all grounded in numeracy. Technical understanding of this kind does not require expertise in the engineering of AI systems, but does require enough familiarity with how they work to engage with outputs critically and appropriately. A working understanding of how AI generates outputs also shapes more practical judgements: knowing which tasks AI is well suited to, where its outputs are more or less reliable, and how the framing of a prompt affects what is produced. Functional training, focused primarily on how to operate a tool, is unlikely to develop these technical skills. A working understanding of how AI systems generate outputs is also more durable than functional familiarity with any particular tool: as interfaces and applications continue to evolve, it is the underlying conceptual understanding that allows people to adapt.

“ If you look at what's in the Department for Science, Innovation and Technology's AI Skills Hub, they're all 20-minute chunks of how to use their tools. But we want to look at trustworthy AI and responsible AI. The focus is very much immediate gratification and immediate answers, rather than taking the time to actually think about it.

*Software Company*

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There is also a link to the anxiety around AI adoption identified earlier in this theme. Where unfamiliarity or fear of displacement drives avoidance, a clearer understanding of what AI can and cannot do may support greater confidence in engaging with it. This matters particularly for workers in lower-paid and lower-skilled roles, where access to retraining is most limited and where the gap between current skills and those needed for effective AI engagement is widest.

Survey data from this project suggests that understanding how AI tools work is strongly associated with respondents' confidence in their skills to use AI tools. Among respondents who said they understood how AI generates answers, the majority also feel confident in their skills to use AI tools effectively (82%). Conversely, among respondents who say they do not understand how AI tools work, only 1 in 4 feel confident in their skills to use them (25%). This represents a 57-percentage-point gap between those who do and do not understand how AI tools work.<sup>xviii</sup> Weaker understanding is reported among older respondents and those in lower socioeconomic grades. These are the same groups least likely to have accessed formal training, and therefore least likely to develop that understanding without targeted support.

“ AI is not magic, but in order to understand the tool, you need to understand the big concepts, such as probability, which are not that hard to grasp.

*Consumer Services company*

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## Section 4 – Recommendations

The findings set out in Section 3 identify a consistent pattern across all three themes. AI tools present a significant opportunity to broaden access to information, skills and opportunity, with particular implications for social mobility. But that potential is not guaranteed, and the evidence points to a series of conditions that must be in place for it to be realised.

**The first is numeracy.** Critical thinking is the most important skill for effective AI engagement, and that critical thinking is often numerical in nature. Assessing whether an AI output is plausible, recognising when a figure looks wrong, or understanding that a response reflects statistical likelihood rather than verified fact all require a grounding in numeracy. Yet only 25% of survey respondents recognise numeracy as a prerequisite for using AI tools effectively, and that figure is lowest among the groups already at greatest disadvantage in numeracy and digital engagement. At the same time, self-reported confidence in the numeracy skills most relevant to critical AI engagement consistently overstates actual ability, leaving many people less equipped to evaluate AI outputs than they realise.

**The second is inequality in who is able to engage with AI critically.** Two groups face particular consequences. The first are those who are using AI tools without the numeracy needed to evaluate what the tools produce, and who may accept outputs at face value in consequential areas of their lives. The second are those who are aware of AI but not using it, often due to low confidence or anxiety. Both groups are disproportionately likely to include people already experiencing socioeconomic disadvantage. Where people rely on AI to complete tasks requiring numeracy rather than working through them directly, the skills needed for critical assessment may weaken over time, making the gap harder to close.

**The third is provision.** Formal education and workplace training are both struggling to keep pace with AI, and in the absence of structured support most people are learning through trial and error. Access to formal training follows existing patterns of advantage, and where training does exist it tends to focus on functional use rather than the technical understanding needed to engage with AI outputs critically. That technical understanding is, in significant part, a numerical one.

The recommendations that follow are directed at policymakers, government departments, and employers. They begin with two cross-cutting foundations that must be in place for any of the subsequent recommendations to have effect, before moving to three recommendations directed at education settings, covering curriculum reform, the design of AI tools used in schools, and teacher professional development.

### Recommendation 1: Numeracy as a condition for AI literacy

As set out in Section 3, only 25% of survey respondents agreed that good numeracy skills are needed to use AI tools, and the groups least likely to recognise that connection are those

already at greatest disadvantage in numeracy and digital engagement. At the same time, more than half of adults in England are at or below the level of numeracy needed for everyday tasks, and the gap between self-reported confidence and actual ability is widest on the skills most relevant to critical AI engagement. Numeracy does not currently appear as a named condition for AI literacy in government strategy or funding commitments. This report therefore recommends formalising that connection and committing to the investment it requires.

## Recommendation 1

The Government should recognise numeracy as a foundational condition for AI literacy, and commit to increased investment in adult numeracy across education, work, and community settings.

- Numeracy should be named as a foundational condition for AI literacy in future AI strategy announcements and related government commitments, reflected in associated funding and delivery decisions.
- Government should commission a funded successor to the Multiply adult numeracy programme, that builds upon the lessons of Multiply, with any new courses explicitly incorporating the applied numeracy skills needed for critical AI engagement and proper measurement of those skills built in from the outset.
- Government should ensure the funded successor to the Multiply programme offers flexible delivery models, including community-based and employer-linked formats for organisations that choose to participate.
- The Department for Education should work with established numeracy organisations and delivery partners to ensure existing courses name AI-relevant numeracy skills as priorities.

Numeracy is currently absent as a named condition from the government's AI strategy and related policy documents. Several existing strategies set out ambitions for adult numeracy, including National Numeracy's 2025 to 2028 strategy, backed by the Secretary of State for Education.<sup>40</sup> Yet as Section 2 describes, the AI Foundation Skills for Work benchmark, the DfE's school AI pilots, and the Media Literacy Action Plan each require competence in numeracy without recognising it as such.<sup>41</sup> Naming numeracy explicitly in future AI commitments would ensure that investment in adult skills is coordinated across departments and reflected in the policy frameworks that shape how AI upskilling is delivered. Without this coordination, investment in AI upskilling is likely to continue reaching those already advantaged, while adults with lower numeracy levels remain outside the scope of provision.

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<sup>40</sup> National Numeracy. "Secretary of State for Education Backs National Numeracy's Strategy." November 12, 2024. <https://www.nationalnumeracy.org.uk/news/secretary-state-education-backs-national-numeracy-strategy>

<sup>41</sup> Skills England. AI Foundation Skills for Work Benchmark. Guidance. Published January 28, 2026. <https://www.gov.uk/government/publications/ai-foundation-skills-for-work/ai-foundation-skills-for-work-benchmark> ; Department for Science, Innovation and Technology, Department for Education, Ian Murray, and Olivia Bailey. "Edtech and AI Companies Invited to Help Build Safe AI Tutoring Tools for Disadvantaged Pupils." Press release. Published April 16, 2026. <https://www.gov.uk/government/news/edtech-and-ai-companies-invited-to-help-build-safe-ai-tutoring-tools-for-disadvantaged-pupils> ; Department for Science, Innovation and Technology, Department for Culture, Media and Sport, and Department for Education. A Safe, Informed Digital Nation. Policy paper. Published March 16, 2026. <https://www.gov.uk/government/publications/a-safe-informed-digital-nation>



I do not see any policy that is connecting AI and numeracy together, to be honest. I know local governments have worked on providing free courses to help people utilise these tools, but I do not think that really extends to the core skills and competencies people need to develop in terms of numeracy.

*Financial Services firm*



As described in Section 2, the Multiply programme provided free, flexible numeracy support for adults aged 19 and over without a Level 2 maths qualification from April 2022 to March 2025.<sup>42</sup> It has since been removed from the Adult Skills Fund funding rules for 2025 to 2026, with no direct replacement. There is now no national programme providing accessible numeracy support for adults at the same point that AI upskilling has become a government priority. The House of Lords Science and Technology Committee called for a national campaign on adult numeracy and asked the Secretary of State to set out plans for funded provision following Multiply's conclusion.<sup>43</sup>

The independent evaluation of Multiply, published in May 2026, offers a clear evidence base for how a successor should be designed.<sup>44</sup> The evaluation found that Multiply was effective at widening participation, around 85% of enrolments would not have happened without the programme<sup>45</sup>. Total adult numeracy enrolments rose by around 63% against the previous three years, and the programme reached high proportions of groups underrepresented in adult learning. Completion and satisfaction were both high, and learners reported gains in confidence with everyday numeracy.<sup>46</sup> The report highlighted that completion and satisfaction were both high, and learners reported gains in confidence with everyday numeracy. It is important to note, however, that the evaluation was unable to demonstrate that Multiply improved adult numeracy skills themselves. The positive findings rest on self-reported confidence rather than measured ability, due to planned before-and-after assessments being abandoned amid low take-up from providers and learners. The evaluation report was also unable to assess value for money due to the relevant data being unavailable at the time of reporting.

These findings point to a successor that learns and builds upon the Multiply programme, rather than simply restoring it. Several effective features of the Multiply programme should be retained, including local design and flexibility, peer-led outreach, embedding numeracy in real-life and vocational contexts, and framing provision around practical outcomes rather than maths itself. These features speak directly to the awareness gap that this report identifies. At the same time, a successor should address the weaknesses the evaluation exposed. These include building in robust measurement of numeracy gains from the start, so

<sup>42</sup> Department for Education. [Withdrawn] Multiply: Funding Available to Improve Adult Numeracy Skills. Published April 13, 2022. <https://www.gov.uk/government/publications/multiply-funding-available-to-improve-numeracy-skills>

<sup>43</sup> House of Lords Science and Technology Committee, "Swift Intervention Needed to Address Maths Education Crisis in UK, Warn Lords Committee," May 2025, Parliament.UK <https://www.parliament.uk/business/lords/media-centre/house-of-lords-media-notice/2025/may-2025/swift-intervention-needed-to-address-maths-education-crisis-in-uk-warn-lords-committee/>

<sup>44</sup> Matthews, Peter, Henry Faulkner-Ellis, Fred Merttens, Priya Menon, Imran Tahir, Christine Farquharson, and Luke Sibieta. Multiply Programme Evaluation: Research Report. Verian and the Institute for Fiscal Studies for the Department for Education, May 2026. RR1629/1. <https://www.gov.uk/government/publications/multiply-programme-evaluation>

<sup>45</sup> Ibid

<sup>46</sup> Ibid

that impact on skills can actually be demonstrated, and designing the programme to complement rather than duplicate existing provision such as Tailored Learning, with a deliberate decision on whether funding is mainstreamed or ringfenced. It is precisely because a successor should do more than its predecessor, incorporating applied numeracy for critical AI engagement and the skills measurement Multiply lacked, and because it would operate at the point AI upskilling has become a national priority, that this report calls for increased rather than simply restored investment.

A successor programme would restore dedicated numeracy support for adults at the point it is most needed, while improving on the model that came before it. Designing it with AI literacy in scope would ensure the two policy ambitions, adult numeracy and AI upskilling, are addressed together rather than in parallel. The evaluation also found employer engagement to be one of the most difficult aspects of delivery, with many local areas finding it harder than expected and some employers reluctant to release staff for non-accredited courses.<sup>47</sup> Employer-linked provision should therefore be offered as a flexible option for organisations that choose to take part, alongside community and education routes, rather than assumed as a default. Given that workplace AI training currently reaches only a minority of employees and is skewed toward more advantaged workers or those working in larger companies, embedding flexible numeracy provision across these settings is essential to reaching adults who would not otherwise access it.

## Recommendation 2: Critical AI literacy

As set out in Section 3, critical thinking is the most important skill for effective AI engagement: the capacity to interrogate an output, to ask whether a response is plausible, and to identify what may be missing or misleading. Section 3 also describes why this requires a degree of technical understanding: specifically, an understanding of how AI systems generate outputs, the role of probability in that process, and the numeracy skills needed to assess whether a result is reliable. Current AI training, in both workplace and educational settings, tends to focus on functional use rather than this kind of technical understanding, and the connection between critical thinking and numeracy is not reflected in existing provision. This report recommends the development of a publicly available curriculum framework to address it.

### Recommendation 2

The Department for Education, working with Skills England, employers, and AI sector representatives, should develop a publicly available critical AI literacy curriculum framework.

- The framework should set out the core competencies that constitute critical AI literacy, including how AI systems generate outputs, the role of probability and statistical inference in that process, and the numeracy skills needed to evaluate what AI produces.
- The framework should be designed for adoption across multiple settings, including employer training programmes, further and higher education, and community learning, with guidance on adapting content for different audiences.

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<sup>47</sup> Ibid

- The framework should be freely and openly available, with accompanying guidance for providers without the in-house expertise to develop an AI literacy curriculum independently.

For the purposes of this report, critical AI literacy means the ability to engage with AI outputs with appropriate scepticism. This includes understanding that AI systems are probabilistic and generate responses based on statistical patterns, that outputs can be wrong or incomplete without always signalling that they are, and that the way a question is framed shapes the answer received. These are in significant part numeracy skills, and they are not currently sufficiently reflected in AI training.

Frameworks for AI literacy have been developed by organisations including the OECD with the European Commission and the Open University, and provide a useful reference point.<sup>48</sup> These, however, do not offer the national reach, cross-sector scope, or focus on numeracy skills that a UK curriculum framework would require. The OECD framework itself identifies a lack of shared standards as a key barrier to implementation.<sup>49</sup> Without numeracy specialists involved from the outset, a UK framework risks reflecting a general digital literacy approach rather than the numeracy skills that this report identifies as central to critical AI engagement. A framework that does reflect those skills would give people from all backgrounds a clearer and more consistent basis for engaging with AI tools critically, regardless of whether they access it through work, further education, or community learning.

### **Recommendation 3: Curriculum frameworks and the skills needed for critical AI engagement**

As set out in Section 3, the mathematics curriculum has historically prioritised standard calculation techniques over the applied reasoning skills most relevant to everyday life, including the ability to interpret numerical information, assess whether a figure seems plausible, and reason with data in practical contexts. These are precisely the skills needed to engage critically with AI outputs. This report recommends embedding critical AI literacy and applied numeracy skills in formal education.

#### **Recommendation 3**

The Department for Education should ensure that critical AI literacy and key numeracy skills are embedded as named components of formal education at school and post-16 level.

- The digital V-level should include critical AI literacy and applied numeracy skills as named core components.
- The mathematics curriculum should be strengthened to include applied numeracy for AI use, with explicit inclusion of proportional thinking, probability, and the capacity to assess the plausibility of a result.

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<sup>48</sup> European Commission and OECD. "Empowering Learners for the Age of AI: An AI Literacy Framework for Primary and Secondary Education." May 2025. [https://ailiteracyframework.org/wp-content/uploads/2025/05/AILitFramework\\_ReviewDraft.pdf](https://ailiteracyframework.org/wp-content/uploads/2025/05/AILitFramework_ReviewDraft.pdf) ; The Open University. "A Framework for the Learning and Teaching of Critical AI Literacy Skills." Spring 2025. <https://www.open.ac.uk/blogs/learning-design/wp-content/uploads/2025/01/OU-Critical-AI-Literacy-framework-2025-external-sharing.pdf>

<sup>49</sup> European Commission and OECD. "Empowering Learners for the Age of AI: An AI Literacy Framework for Primary and Secondary Education." May 2025. [https://ailiteracyframework.org/wp-content/uploads/2025/05/AILitFramework\\_ReviewDraft.pdf](https://ailiteracyframework.org/wp-content/uploads/2025/05/AILitFramework_ReviewDraft.pdf)

- DfE should establish a standing mechanism to review and update curriculum frameworks in response to significant technological developments.

The Curriculum and Assessment Review, published in November 2025, called for greater depth and more complex problem-solving at Key Stage 3.<sup>50</sup> The review did not explicitly address the specific competencies most relevant to critical AI engagement, including proportional thinking, probability, and the capacity to assess the plausibility of a result. DfE confirmed in March 2026 that V-levels will be taught in digital, education and early years, and finance and accounting from September 2027.<sup>51</sup> The content of the digital qualification is currently under consultation. In this context, embedding critical AI literacy and applied numeracy in formal education is essential to ensuring children and young people are prepared for AI as it becomes more present in everyday and working life. This matters particularly for pupils from lower socioeconomic backgrounds, who are least likely to develop these skills outside formal education and who stand to gain most if the curriculum equips them to engage with AI critically.

Curriculum frameworks are typically reviewed on long cycles. As Section 3 describes, this means educational practice can fall behind the pace at which technology develops, and has already done so in some areas. A standing review mechanism within DfE would allow curriculum frameworks to be updated as significant technological developments arise, without requiring a full review each time.

#### **Recommendation 4: AI tools in educational settings**

As set out in Section 3, AI adoption in schools remains largely experimental, and the pace at which young people are engaging with AI tools has outstripped formal guidance on how those tools should be used in learning contexts. A particular risk identified by stakeholders is that where AI tools complete tasks requiring numeracy on behalf of learners rather than supporting active engagement with them, the skills needed for critical assessment may weaken before they are fully formed. The DfE's AI tutoring programme represents the most significant near-term opportunity to shape how AI tools are deployed in numeracy learning at scale. This report therefore recommends that design and use requirements be embedded in the programme's procurement specifications before it scales.

#### **Recommendation 4**

The Department for Education should establish requirements for AI tools used in educational settings that support active numerical engagement, beginning with the procurement specifications for the AI tutoring programme.

- Tools procured under the programme should be required to prompt learners to estimate, verify, or interrogate outputs.
- Department for Education should develop shared design principles for AI tools used in learning, in consultation with EdTech providers, numeracy specialists, and employers, and reflect these in procurement criteria.

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<sup>50</sup> Department for Education. "Curriculum and Assessment Review: Final Report." November 5, 2025.  
<https://www.gov.uk/government/publications/curriculum-and-assessment-review-final-report>

<sup>51</sup> Department for Education. "New V Levels and Post-16 Qualifications Explained." March 10, 2026.  
<https://educationhub.blog.gov.uk/2026/03/new-v-levels-and-post-16-qualifications-explained/>

- Department for Education should issue guidance for schools and teachers on using AI tools in ways that support active numerical engagement rather than substitute for it.

The DfE's AI tutoring programme, announced in April 2026, invites EdTech and AI companies to build and test tools in up to 1,000 schools from summer 2026, with the potential to scale to 450,000 pupils on free school meals in Years 9 to 11.<sup>52</sup> The current tender requires products to align to the national curriculum, integrate with classroom practice under teacher supervision, and demonstrably serve disadvantaged pupils.<sup>53</sup> It does not specify that tools should scaffold active reasoning.

Research draws a clear distinction between tools that scaffold learning, supporting a learner to work through a task at the edge of their independent capability, and tools that offload it entirely, bypassing the engagement through which lasting understanding is built.<sup>54</sup> The risks of cognitive offloading are most acute in education, where habits of engagement are still forming, and are most consequential for numeracy skills specifically, given the role these skills play in critical AI engagement. The programme's focus on pupils on free school meals makes this particularly significant: these are pupils for whom the consequences of not developing strong numeracy are greatest, and for whom AI tools that substitute for active engagement rather than supporting it could compound existing disadvantage.

By active numerical engagement, this report means working through a numerical task largely independently: performing or following the steps of a calculation, or using a calculator to support but not replace that process, rather than outsourcing the task to AI in full. The aim is to preserve the engagement through which numerical intuition and skill are built and maintained.

DfE's stated priorities for the tutoring programme include teacher-led design, curriculum alignment, and tools that complement rather than replace classroom teaching.<sup>55</sup> We recognise that schools, particularly those serving the most disadvantaged communities, are already stretched. This recommendation is not intended to place an entirely new burden on them: curriculum and EdTech procurement changes are already underway, and the ask is that numeracy and critical AI literacy are reflected within that existing process rather than delivered through a parallel programme of work. Establishing design and use requirements now, through procurement criteria and accompanying guidance, would ensure AI adoption in schools supports foundational numerical skills rather than substituting for them. Trials are planned for autumn 2026, with tools available in schools by the end of 2027.<sup>56</sup> As AI tools become more widely embedded across educational settings, the design principles applied to this programme should form the basis of broader expectations for any AI tool used in formal

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<sup>52</sup> Department for Science, Innovation and Technology, and Department for Education. "Edtech and AI Companies Invited to Help Build Safe AI Tutoring Tools for Disadvantaged Pupils." April 16, 2026. <https://www.gov.uk/government/news/edtech-and-ai-companies-invited-to-help-build-safe-ai-tutoring-tools-for-disadvantaged-pupils>

<sup>53</sup> Ibid.

<sup>54</sup> For example: Jose, Binny, Jaya Cherian, Alie Verghis, Sony Varghise, Mumthas S, and Sibichan Joseph. "The Cognitive Paradox of AI in Education: Between Enhancement and Erosion." *Frontiers in Psychology* 16 (2025). <https://doi.org/10.3389/fpsyg.2025.1550621>. ; Gerlich, Michael. 2025. "AI Tools in Society: Impacts on Cognitive Offloading and the Future of Critical Thinking" *Societies* 15, no. 1: 6. <https://doi.org/10.3390/soc15010006>

<sup>55</sup> Department for Science, Innovation and Technology, and Department for Education. "Edtech and AI Companies Invited to Help Build Safe AI Tutoring Tools for Disadvantaged Pupils." April 16, 2026. <https://www.gov.uk/government/news/edtech-and-ai-companies-invited-to-help-build-safe-ai-tutoring-tools-for-disadvantaged-pupils>

<sup>56</sup> Ibid.

learning contexts. Ofsted's inspection framework and DfE's wider EdTech guidance provide natural vehicles for extending these requirements beyond a single programme, and for establishing active numerical engagement as a standard against which tools used in schools are assessed.

“

Actually, we humans do need to go through some steps that are not technology assisted in order to then understand what it is they're asking the technology to do... Paradoxically we might need education without technology in order to be well prepared for education with technology.

*Further Education Sector Body*

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### **Recommendation 5: Teacher professional development and initial teacher training**

As set out in Section 3, teachers are among those most directly affected by the pace of AI adoption, and the conditions for meaningful professional development rarely exist even where the need is recognised. There is no national structured programme delivering AI literacy and numeracy skills consistently across subjects and school types, resulting in uneven provision. This report therefore recommends a national continuing professional development programme and changes to initial teacher training requirements to address both the existing workforce and the pipeline.

#### **Recommendation 5**

The Department for Education should ensure that teachers are equipped with AI literacy and numeracy skills, across both the existing workforce and the training pipeline.

- Department for Education should develop and deliver a structured national CPD programme through existing infrastructure, including teaching school hubs, covering the AI literacy and numeracy competencies most relevant to critical AI engagement.
- Department for Education should allocate dedicated funding for teacher release and backfill costs associated with the programme.
- AI literacy should be named as a competency within initial teacher training requirements across all Initial Teacher Training (ITT) pathways.

As Section 3 describes, take-up of AI professional development is uneven across the school system, and teachers in more pressured settings are those least likely to receive support. Those pressures are greatest in schools serving the most disadvantaged communities, meaning the pupils who most need teachers equipped to guide critical AI engagement are the least likely to have them. Delivering a CPD programme through teaching school hubs uses infrastructure with established relationships across the school system, avoiding the need to build new delivery networks. Where schools cannot cover the cost of releasing staff, provision tends not to be accessed regardless of its quality: dedicated funding for teacher release and backfill is therefore the practical condition on which take-up depends.

AI literacy and relevant numeracy skills are not currently named competencies in ITT requirements. Since September 2024, all accredited ITT providers have been delivering

courses incorporating a revised set of quality requirements, but these do not include either competency.<sup>57</sup> Naming AI literacy across all pathways reflects the reality that AI will be present in every classroom regardless of subject.

“

The reason that we've been able to reach the number of teachers that we have is because we've had funding to pay the schools to release teachers for their teaching that day, their time is money and schools are so strapped. So being able to actually not just say that this is important, but actually put money there ultimately comes down to the government funding.

*University Research Institution*

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<sup>57</sup> Department for Education. "Initial Teacher Training (ITT): Criteria and Supporting Advice." 2025.  
[https://assets.publishing.service.gov.uk/media/68ff71040f801e57b5bef91f/Initial\\_teacher\\_training\\_ITT\\_criteria\\_and\\_supporting\\_advice\\_2025\\_to\\_2026.pdf](https://assets.publishing.service.gov.uk/media/68ff71040f801e57b5bef91f/Initial_teacher_training_ITT_criteria_and_supporting_advice_2025_to_2026.pdf)

# Conclusion

This report has identified a consistent gap between what effective AI engagement requires and what existing policy provides. Numeracy is a foundational condition for critical AI engagement, and the groups least equipped to engage critically with AI are those already at greatest disadvantage. Across the policy landscape reviewed in Section 2, numeracy appears as an unnamed requirement in AI strategy, education policy, and workplace training frameworks, without the recognition or investment its role requires.

Only 25% of UK adults surveyed recognise numeracy as a prerequisite for effective AI use. Those least likely to recognise that connection are adults in lower socioeconomic grades, those without graduate-level education, and older age groups. These are the same groups most at risk of using AI without the skills to evaluate what it produces, or of avoiding it altogether, and the groups with the least access to alternative sources of advice and support when AI outputs are inaccurate or misleading.

AI tools could support social mobility, helping people access information, navigate complex systems, and develop skills outside formal structures. That potential is real, but it is not guaranteed. As AI becomes more embedded in workplaces, public services, and everyday life, access to formal AI training, understanding of how AI works, and confidence in using AI tools all track existing patterns of socioeconomic advantage. Without deliberate intervention, AI could widen existing inequalities rather than narrow them, and its potential as a tool for progression and opportunity could remain out of reach for the people who stand to gain most.

The five recommendations in this report follow from these findings.

At the level of national policy, the connection between numeracy and AI literacy needs to be named in government strategy and reflected in funding decisions. The end of the Multiply programme has left adults without a national-scale vehicle for flexible numeracy support at the same point that AI upskilling has become a government priority. A successor programme designed with AI literacy in scope, and built on the evidence of what Multiply did and did not achieve, would address both gaps together rather than treating them as separate concerns.

In education, the curriculum and the tools being introduced into classrooms need to reflect the skills that critical AI engagement requires. Proportional thinking, probability, and the capacity to assess the plausibility of a result are not currently named as priorities in curriculum frameworks, and the procurement criteria for AI tools used in schools do not require those tools to support the active development of these skills. The DfE's AI tutoring programme, with the potential to reach 450,000 pupils on free school meals, is a significant opportunity to get this right. Pupils from lower socioeconomic backgrounds are those for whom the consequences of not developing strong numeracy are greatest, and for whom well-designed AI tools could make the most difference. A dedicated CPD programme for teachers, routed through existing infrastructure and supported by dedicated funding, is the practical condition on which consistent provision across the school system depends.

Expanding access to AI tools without investing in the numeracy and critical thinking skills needed to use them well is unlikely to close existing gaps, and could widen them. As the UK's broader AI strategy takes shape, the question of who has the skills to engage with these tools critically, and who does not, will increasingly determine whether the benefits of AI are widely shared or remain concentrated among those already best placed to access them.

# Annex

## Research Methodology

### Research Design and Desk Research

The research was designed as a mixed-methods study, combining desk research, qualitative stakeholder engagement, quantitative survey data, and deliberative roundtable discussion. This approach was chosen to ensure that the findings are grounded in both existing evidence and primary data, and that the quantitative survey instrument was directly informed by expert insight rather than developed in isolation.

Desk research began in Q1 2026 and continued throughout the project. The initial review mapped existing literature on numeracy skills in the UK, the demands that AI places on those skills, and the implications for education, employment, and social mobility. This established the conceptual framework for the research and informed the development of the qualitative interview guide and quantitative survey instrument.

### Qualitative Stakeholder Engagement

Eleven qualitative stakeholder interviews and one focus group were conducted between 10 April and 29 May 2026. Interviewees were drawn from across the education, policy, technology, and employment sectors, and were selected to provide a range of perspectives on the relationship between numeracy, AI, and social mobility. Each interview lasted approximately 45 minutes and was conducted online. Interviews were semi-structured, allowing for comparability across respondents while preserving space for interviewees to raise issues not anticipated in the interview guide.

The focus group brought together a smaller group of participants to explore key themes in greater depth and to surface perspectives that may not emerge through individual interview settings.

Together, the interviews and focus group served two purposes: to provide contextual insight into the challenges and opportunities AI presents for numeracy; and to identify and refine the specific numeracy competencies, including mathematical literacy, data interpretation, and critical reasoning, that informed the design of the quantitative survey.

### Quantitative Survey

The quantitative online survey was commissioned through Ipsos and fielded in April 2026 with a nationally representative sample of 2,069 UK adults aged 18-75. The survey instrument was developed directly from the findings of the desk research and qualitative engagement, translating the skills framework and key themes identified in those earlier phases into a quantitative tool. Quotas were applied to ensure the sample was representative by age, gender, region, and working status. The data has been weighted to the known offline population proportions for interlocking cells of gender within age and working status, as well as region, social grade and education to reflect the 18-75 adult population.

A full list of survey questions:

**BASE: ALL ADULTS AGED 18-75****FILTER: ASK ALL**

**Q1.** How confident, if at all, are you performing tasks involving numerical calculations, e.g. budgeting, estimating discounts, calculating measurements, etc.?

**SINGLE CODE, FORWARD/REVERSE CODES 1-4**

Very confident

Fairly confident

Not very confident

Not at all confident

Don't know

**BASE: ALL ADULTS AGED 18-75****FILTER: ASK ALL**

**Q2.** And how confident, if at all, do you feel doing each of the following?

**PROGRESSIVE GRID****ROWS, RANDOMISE**

Working out calculations involving percentages, fractions, or proportions

Reading and understanding charts, graphs, or tables

Understanding averages and what they do and do not tell you

Understanding probability or the likelihood of something happening

Spotting when a number or figure looks wrong or implausible

Making sense of very large or very small numbers (for example, knowing what a figure in the millions or a fraction of a percent actually means)

**COLUMNS, SINGLE CODE, FORWARD/REVERSE 1-4**

Very confident

2. Fairly confident

3. Not very confident

4. Not at all confident

5. Not applicable

6. Don't know

**BASE: ALL ADULTS AGED 18-75****FILTER: ASK ALL**

**Q3.** AI-powered tools are a type of artificial intelligence which can create content, such as images, text, audio, etc. Examples of these tools are ChatGPT, Google's Gemini, Microsoft Copilot, etc.

Are you aware of any of these AI tools, or not?

**SINGLE CODE, FORWARD/REVERSE CODES 1-2**

Yes, I am aware and I have used them

Yes, I am aware but have not used them

No I am not aware

Don't know

**BASE: ALL ADULTS AGED 18-75 WHO ARE AWARE AND USE AI TOOLS**

**FILTER: IF Q3 =1**

**Q4.** You mentioned you have used AI tools (e.g. ChatGPT, Google Gemini, Microsoft Copilot, etc).

For which of the following purposes have you used any AI tools in last 6 months?

Please select all that apply.

**MULTICODE 1-2, RANDOMISE 1-2**

Personal

Work

Don't know

**BASE: ALL ADULTS AGED 18-75 WHO ARE AWARE AND USE AI TOOLS**

**FILTER: IF Q3 =1**

**Q5.** And in the last 6 months, how often have you used AI tools for the following?

**PROGRESSIVE GRID**

**ROWS, RANDOMISE 1-2**

Personal

Work

**COLUMNS SINGLE CODE, FORWARD/REVERSE 1-5**

Every day

Several times a week

Several times a month

Less often than once a month

I used it once or twice to try

Don't know

**BASE: ALL ADULTS AGED 18-75 WHO ARE AWARE OF ANY AI TOOLS**

**FILTER: IF Q3 =1 or 2**

**Q6.** To what extent do you consider AI tools to be trustworthy or not in terms of the accuracy of their responses or results?

**SINGLE CODE, FORWARD/REVERSE CODES 1-4**

Very trustworthy

Fairly trustworthy

Not very trustworthy

Not at all trustworthy

Don't know

**BASE: ALL ADULTS AGED 18-75 WHO ARE AWARE OF ANY AI TOOLS**

**FILTER: IF Q3 =1 OR 2**

**Q7.** To what extent do you agree or disagree with the following statements?

**PROGRESSIVE GRID**

**ROWS, RANDOMISE BLOCK CODE 3-4 AND RANDOMISE WITHIN BLOCK**

I understand how AI systems generate answers or recommendations

I feel confident I have the necessary skills to use AI tools effectively

In order to use AI tools you need good numeracy skills

In order to use AI tools you need good literacy skills

**COLUMNS - SINGLE CODE, FORWARD/REVERSE CODES 1-5**

Strongly agree

Tend to agree

Neither agree nor disagree

Tend to disagree

Strongly disagree

Don't know

**BASE: ALL ADULTS AGED 18-75 WHO ARE AWARE AND USED AI TOOLS**

**FILTER: IF Q3 =1**

**Q8.** When you are doing **numerical tasks**, how often, if at all, do you use any AI-powered tools (for example, ChatGPT, Google's Gemini, Microsoft Copilot, etc.) to help you?

**A numerical task** involves any activity that requires calculating, or interpreting numbers. This may include tasks like interpreting data from graphs, budgeting, estimating discounts, calculating measurements, etc.

**SINGLE CODE, FORWARD/REVERSE CODES 1-5**

Always/Nearly always

Very often

Sometimes/Occasionally

Not very often

Hardly ever/Never

Don't know

**BASE: ALL ADULTS AGED 18-75 WHO ARE AWARE AND USED AI TOOLS**

**FILTER: IF Q3 =1**

**Q9.** Which of the following, if any, best describes how you have learned to use AI-powered tools?

Please select all that apply.

**MULTI CODE 1-6, FORWARD/REVERSE 1-5**

I learned it through interacting with the AI tools themselves

Through friends, family, or colleagues  
Through my own research (e.g. online tutorials, videos, etc.)  
Through training provided by an employer  
Through an educational course (e.g. at school, college, university, online course, etc.)  
In another way  
Don't know

**BASE: ALL ADULTS AGED 18-75**

**FILTER: ASK ALL**

**Q10.** In your view, who should be primarily responsible for ensuring that people in the UK have the skills needed to use AI tools effectively?

*Please select all that apply.*

**MULTI CODE 1-6, FORWARD/REVERSE 1-6**

The government  
Companies / organisations using AI tools in the workplace  
AI companies and technology developers  
Community organisations and charities  
Schools / colleges or universities  
Individuals themselves  
Don't know

### **Advisory Board Meetings**

Two advisory board meetings were held with members of the National Numeracy Leadership Council (NNLC) and project partners, including representatives from KPMG, National Numeracy, and other NNLC member organisations.

The first advisory board meeting took place on 16 April 2026. The research team presented the findings of the desk research and the proposed research design, including the approach to stakeholder engagement and the draft survey instrument. Members were invited to provide feedback on the emerging framing and to identify areas they considered important for the research to address. This input informed the finalisation of the survey questions and the qualitative interview guide.

The second advisory board meeting took place on 16 June 2026. At this stage, the research team presented the draft recommendations for member feedback. The meeting provided an opportunity for members to draw on their organisational experience to stress-test the proposed recommendations and ensure they were grounded in the realities facing employers, educators, and policymakers.

### **Interim Summary**

An interim summary of the research was produced and published on 20 May 2026 to coincide with National Numeracy Day. Drawing on the findings of the desk research and qualitative stakeholder engagement, the summary presented the emerging themes and early findings ahead of the full report.

## Report Drafting

The report was drafted iteratively following the completion of the quantitative fieldwork, drawing on the full dataset gathered across all preceding phases. Draft findings and recommendations were subject to review by the advisory board and project partners, with feedback incorporated into successive versions of the report.

## AI Use Statement

Policy Connect is committed to transparency in our use of AI technologies. Where AI tools substantively contribute to research outputs, such as data synthesis, literature scanning, or drafting assistance, we disclose this use appropriately to stakeholders and funders. **We do not use AI to generate policy recommendations, replace expert analysis, or make decisions that influence our research conclusions.** Human oversight, critical thinking, and stakeholder engagement remain central to all stages of our work. As the UK policy landscape continues to evolve around AI governance and regulation, Policy Connect will continue to lead by example, ensuring our own practices align with the ethical standards we promote publicly. We remain accountable to Parliament, our members, and the public, and are committed to ongoing review and adaptation of our AI use practices in line with emerging best practice, legal requirements, and societal expectations.

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## Acknowledgements

Thank you to the report authors, Rhiannon Tuckett-Jones, Lavanya Rangarajan, and Max Bishop for their dedication. Special thank you to Claudia Jaksch for her leadership and guidance. Thank you to National Numeracy and KPMG UK, specifically Julia Day, Carla Basilico, Claire Le Masurier, Cassandra Lawrence, Emily Dallison, Paul Foss, Sophie Sweatman, and Ellie Cornelius-Farrelly, for their continued support and feedback throughout this project.

## Policy Connect

Policy Connect is a cross-party think tank. We specialise in supporting parliamentary groups, forums and commissions, delivering impactful policy research and event programmes and bringing together parliamentarians and Government in collaboration with academia, business and civil society to help shape public policy in Westminster and Whitehall, so as to improve people's lives. Our work focusses on five key policy areas which are: Education & Skills; Industry, Technology & Innovation; Sustainability; Health; and Accessibility. We are a social enterprise and are funded by a combination of regular annual membership subscriptions and time-limited sponsorships. We are proud to be a Disability Confident and London Living Wage employer, and a member of Social Enterprise UK.

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## Glossary

- **Active numerical engagement** — Working through a numerical task largely independently, by performing or following the steps of a calculation, or using a

calculator to support rather than replace that process, instead of outsourcing the task to AI in full. The report uses this term to describe the kind of engagement that AI tools in education should support rather than substitute for.

- **Adult Skills Fund** — The main government funding stream for adult education and skills in England, administered through national and devolved arrangements. Multiply was removed from its funding rules for 2025 to 2026.
- **AI (artificial intelligence)** — In this report, AI refers specifically to large language model tools that generate text-based responses to user inputs by drawing on patterns in large volumes of training data, such as ChatGPT, Claude and Gemini, rather than to AI functionality embedded in other software.
- **AI Adoption Summit** — The UK government's first summit on AI adoption, held on 8 June 2026, framed around the argument that the largest economic gains from AI come from adoption rather than invention. It was accompanied by an adoption support package of more than £200 million.
- **AI agent** — A newer form of AI tool that can act on a user's behalf across multiple steps or systems. Such tools are largely built on the same underlying architecture as the language-model tools this report examines and remain probabilistic in nature.
- **AI Foundation Skills for Work benchmark** — A January 2026 benchmark, sitting within the AI Skills Boost programme, that sets out six AI foundation skills across three domains, with free industry-developed courses and digital badges aligned to each.
- **AI Growth Zones** — Designated areas intended to concentrate AI investment, infrastructure and jobs, introduced under the AI Opportunities Action Plan.
- **AI literacy** — The broad set of skills and understanding needed to engage with AI tools effectively. In this report, numeracy is identified as a foundational condition for AI literacy, and critical AI literacy is its evaluative dimension.
- **AI Opportunities Action Plan** — The Labour government's January 2025 plan setting out how the UK intends to use AI as a lever for economic and public service goals, against which subsequent AI policy progress is measured.
- **AI Skills Boost** — The government and industry programme delivering free AI upskilling courses, part of the wider commitment to train 10 million workers by 2030. It had passed 1.7 million course completions by April 2026.
- **AI tutoring programme** — A Department for Education initiative, announced in April 2026, inviting EdTech and AI companies to build and test AI tutoring tools in up to 1,000 schools, with potential to scale to 450,000 pupils on free school meals in Years 9 to 11.
- **Bridge AI** — A government scheme, expanded at the AI Adoption Summit, that matches British companies with British AI tools and provides support on skills, assurance and practical adoption.

- **Cognitive offloading** — Handing a task over to a tool so completely that the mental engagement through which understanding is built is bypassed. The report contrasts this with scaffolding and flags it as a particular risk for numeracy skills in education.
- **Continuing professional development (CPD)** — Ongoing, structured training and learning for those already in a profession. The report recommends a national CPD programme to equip serving teachers with AI literacy and numeracy skills.
- **Critical AI literacy** — The numerical, technical and analytical understanding needed to engage with AI tools effectively and critically and to evaluate their outputs, including how AI systems generate responses, the role of probability in that process, and the numeracy needed to judge what AI produces. "Literacy" here means being able to do something well, not reading and writing.
- **Curriculum and Assessment Review** — A review published in November 2025 that frames maths as fundamental to everyday life, further study and employment, and recommends changes to strengthen maths foundations across the Key Stages.
- **Early Careers Jobs Alliance** — A £20 million partnership of government, employers and trade unions, announced in June 2026, to map how entry-level work is changing as AI is adopted and to help preserve routes into work.
- **Essential Digital Skills Standards and Framework** — National frameworks defining the digital skills adults need for life and work, which the government has committed to update through 2026 and link to AI skills.
- **ESOL (English for Speakers of Other Languages)** — Provision teaching English to adults whose first language is not English. Within the UK Shared Prosperity Fund, numeracy now competes with ESOL and other essential skills for local funding.
- **Financial Inclusion Strategy** — HM Treasury's November 2025 strategy to remove barriers to financial participation, which includes making financial education a compulsory part of primary schooling in England and funding the modernisation of debt advice, including AI pilots.
- **Functional skills (in relation to AI)** — The basic ability to interact with an AI tool, such as framing a query, navigating an interface, or fitting a tool into an existing workflow. The report distinguishes these from technical skills.
- **GCSE grades** — Under the numerical GCSE grading system (9 to 1), grade 4 is a standard pass and the threshold above which post-16 maths and English study is not required; grade 2 is the level below which learners may take new Level 1 'Preparation for GCSE' qualifications.
- **Initial Teacher Training (ITT)** — The accredited routes through which people qualify as teachers. The report recommends naming AI literacy as a competency across all ITT pathways.
- **Key Stages** — The stages into which the English school curriculum is divided (Key Stage 1 through Key Stage 4), each covering specific year groups and setting out what pupils should be taught.

- **Large language model (LLM)** — A type of AI system that generates text by drawing on statistical patterns in large volumes of training data. The report's references to AI relate specifically to LLM-based tools.
- **Maths Hubs** — A network of school-led centres supporting improvement in maths teaching, through which the Securing Foundations programme operates.
- **Media Literacy Action Plan (A Safe, Informed Digital Nation)** — A DSIT three-year plan covering 2026 to 2029, focused on misinformation, critical thinking and online safety, several of whose actions depend on numeracy without naming it.
- **Multiply** — A government programme that provided free, flexible numeracy support for adults aged 19 and over without a Level 2 maths qualification from April 2022 to March 2025, after which its ringfenced funding ended with no direct replacement.
- **National Numeracy** — A charity working to improve adult and family numeracy across the UK, a partner in this research and author of the 2025 to 2028 numeracy strategy referenced in the recommendations.
- **National Numeracy Leadership Council (NNLC)** — A group of businesses convened around the goal of improving numeracy, whose members launched and advised this research project.
- **National Readership Survey (NRS) socioeconomic grades** — A standard UK demographic framework based on the occupation of a household's chief income earner, grouped as AB (higher and intermediate managerial, administrative or professional), C1 (supervisory, clerical or junior managerial), C2 (skilled manual workers), and DE (semi-skilled and unskilled manual workers, state pensioners and the lowest-grade or casual workers).
- **Net agreement / net confidence** — Survey measures calculated by subtracting the proportion who disagree (or feel not confident) from the proportion who agree (or feel confident), giving a single figure that summarises the balance of opinion.
- **Numeracy** — The ability to understand, interpret and work with numbers in real-world situations, including reasoning with data and making decisions based on quantitative evidence. The report treats numeracy as a practical, applied capability concerned with everyday numerical tasks, not formal mathematical proficiency.
- **Post-16** — Education and training undertaken after the age of 16, the stage at which students without a GCSE grade 4 in maths and English are currently required to continue studying both subjects.
- **Post-16 Education and Skills White Paper** — An October 2025 White Paper that introduced new Level 1 'Preparation for GCSE' qualifications in English and maths and reformed how post-16 resit requirements are delivered.
- **PRIMES framework** — A six-part framework for effective AI training (Practical, Reachable, Integrated, Modular, Expandable and Sustainable), set out in the June 2026 Skills England and DWP report Skills for AI: What Works for AI Upskilling in the UK.

- **Probabilistic** — Describing systems whose outputs reflect statistical likelihood rather than verified fact. AI language tools are probabilistic, generating responses from patterns in their training data, which is why interpreting them critically draws on numeracy.
- **Qualification levels** — The rungs of the regulated qualifications framework in England, from Entry Level through Level 1 and Level 2 (broadly equivalent to GCSE grades 1 to 3 and grades 4 to 9 respectively) upward. Multiply was aimed at adults without a Level 2 maths qualification.
- **Scaffolding** — In learning, support that helps a person work through a task at the edge of their independent capability, building lasting understanding. The report contrasts AI tools that scaffold learning with those that offload it.
- **Securing Foundations programme** — A Maths Hubs initiative operating at Year 7 that helps pupils who did not meet age-related expectations in primary school consolidate earlier content before progressing.
- **Self-directed learning** — Learning to use AI tools through one's own experimentation and research rather than formal training. The report finds most AI users learn this way, which tends to favour those with the time, confidence and motivation to experiment.
- **SEND (special educational needs and disabilities)** — A term covering pupils who need additional or different support to access education, identified in the Curriculum and Assessment Review as a group for targeted small-group maths intervention.
- **Skills England** — The government body responsible for assessing and coordinating the country's skills needs, whose reports and frameworks on AI skills feature throughout the policy landscape.
- **SME (small and medium-sized enterprise)** — Smaller businesses, identified across the report as facing particular barriers of capacity, cost and awareness in adopting AI and accessing training.
- **Sovereign AI Fund** — A fund providing financial and strategic support to UK AI startups, including help with regulation, procurement and talent, announced as a step under the AI Opportunities Action Plan.
- **Spärck AI Scholarships** — A government scholarship programme supporting the AI talent pipeline, expanded as part of the AI Adoption Summit package.
- **Tailored Learning** — Existing adult education provision that a Multiply successor is advised to complement rather than duplicate, to avoid overlap in the adult skills system.
- **Technical skills (in relation to AI)** — A broader understanding of how AI systems generate outputs, what they draw on, how they reach a response, and what that means for reliability and limitations. The report argues this understanding is, in significant part, numerical.

- **Tech Town programme** — A government AI adoption initiative, pioneered in Barnsley and expanded under the AI Adoption Summit package, supporting AI uptake in local areas.
- **TechFirst / TechFirst Youth programme** — The government's nationwide tech skills programme for young people. A £24 million strand supports secondary pupils to develop AI and digital skills, and a June 2026 expansion extends it to reach 400,000 students in the most disadvantaged schools.
- **UK AI Hardware Plan** — A £1.1 billion plan announced in June 2026 focused on semiconductors, compute and chip technologies, backed by £400 million for the next national AI supercomputer.
- **UK Shared Prosperity Fund** — A central funding stream allocated through local authorities. From 2025 to 2026 it no longer protects adult numeracy as a distinct line, so numeracy competes with literacy, ESOL and digital skills for local allocations.
- **V-levels** — New technical qualifications confirmed for teaching from September 2027, including in digital, education and early years, and finance and accounting. The report recommends that the digital V-level name critical AI literacy and applied numeracy as core components.

<sup>i</sup> Responses to SQ6. Full response breakdown: very trustworthy (8%), fairly trustworthy (48%), not very trustworthy (24%), not at all trustworthy (11%), don't know (9%). Base: 1958.

<sup>ii</sup> Responses to SQ7.3. Full response breakdown: strongly agree (6%), tend to agree (20%), neither agree nor disagree (32%), tend to disagree (26%), strongly disagree (10%), don't know (7%). Base: 1958.

<sup>iii</sup> Responses to SQ7.4. Full response breakdown: strongly agree (10%), tend to agree (32%), neither agree nor disagree (27%), tend to disagree (20%), strongly disagree (5%), don't know (6%). Base: 1958.

<sup>iv</sup> References to socioeconomic grade throughout this report use the National Readership Survey (NRS) classification system, a standard UK demographic framework based on the occupation of the chief income earner in a household. Six categories are used, typically grouped as AB (higher and intermediate managerial, administrative, or professional), C1 (supervisory, clerical, or junior managerial), C2 (skilled manual workers), and DE (semi-skilled and unskilled manual workers, state pensioners, and those on lowest grade or casual work). AB n=726, C1 n=574, C2 n=272, DE n=386. Responses to SQ7.3 crosscut by socioeconomic grade. Full response breakdown: strongly agree (AB: 10%; C1: 4%; C2: 3%; DE: 4%), tend to agree (AB: 25%; C1: 18%; C2: 21%; DE: 14%), neither agree nor disagree (AB: 25%; C1: 32%; C2: 37%; DE: 36%), tend to disagree (AB: 28%; C1: 28%; C2: 23%; DE: 27%), strongly disagree (AB: 9%; C1: 11%; C2: 10%; DE: 9%), don't know (AB: 3%; C1: 8%; C2: 6%; DE: 10%). Base: 1958.

<sup>v</sup> References to education level throughout this report distinguish between graduate and non-graduate respondents. Graduate respondents are those who hold a university degree or equivalent higher education qualification. Non-graduate respondents are those who do not hold such a qualification, regardless of other educational attainment. Responses to SQ7.3 crosscut by education-level. Full response breakdown: strongly agree (graduates: 9%; non-graduates: 4%), tend to agree (graduates: 26%; non-graduates: 16%), neither agree nor disagree (graduates: 25%; non-graduates: 35%), tend to disagree (graduates: 27%; non-graduates: 26%), strongly disagree (graduates: 9%; non-graduates: 10%), don't know (graduates: 4%; non-graduates: 8%). Base 1958. Graduates n=1113, Non graduates n=845.

<sup>vi</sup> Responses to SQ7.3 crosscut by age: Full response breakdown: strongly agree (18-24: 10%; 25-34: 11%; 35-44: 6%; 45-54: 2%; 55-75: 2%), tend to agree (18-24: 26%; 25-34: 26%; 35-44: 19%; 45-54: 17%; 55-75: 15%), neither agree nor disagree (18-24: 25%; 25-34: 28%; 35-44: 27%; 45-54: 36%; 55-75: 38%), tend to disagree (18-24: 24%; 25-34: 23%; 35-44: 29%; 45-54: 31%; 55-75: 25%), strongly disagree (18-24: 13%; 25-34: 9%; 35-44: 15%; 45-54: 8%; 55-75: 7%), don't know (18-24: 2%; 25-

34: 3%; 35-44: 4%; 45-54: 6%; 55-75: 13%). Base: 1958. 18-24 n=186, 25-34 n=341, 35-44 n=377, 45-54 n=398, 55-75 n=656

vii Responses to SQ2.1-SQ6. Full response breakdown: SQ2.1: very confident (29%), fairly confident (43%), not very confident (17%), not at all confident (8%), not applicable (1%), don't know (2%). SQ2.2: very confident (31%), fairly confident (50%), not very confident (13%), not at all confident (3%), not applicable (1%), don't know (2%). SQ2.3: very confident (31%), fairly confident (46%), not very confident (14%), not at all confident (5%), not applicable (1%), don't know (2%). SQ2.4: very confident (26%), fairly confident (51%), not very confident (15%), not at all confident (4%), not applicable (1%), don't know (3%). SQ2.5: very confident (27%), fairly confident (52%), not very confident (14%), not at all confident (3%), not applicable (1%), don't know (4%). SQ2.6: very confident (29%), fairly confident (42%), not very confident (18%), not at all confident (7%), not applicable (1%), don't know (3%). Base (all adults) n=2069

viii Responses to SQ6 crosscut by responses to SQ3. Full response breakdown: very trustworthy (12%), fairly trustworthy (65%), not very trustworthy (17%), not at all trustworthy (2%), don't know (4%). All adult 18-75 who have used AI tools n=1151.

ix Use figures reflect respondents' self-reported awareness of their own AI tool use. As AI functionality is increasingly embedded within mainstream platforms and services, some respondents may be engaging with AI tools without recognising them as such, meaning actual use across the sample may be higher than these figures indicate. Responses to SQ3. Full response breakdown: yes, I am aware and I have used them (53%), yes, I am aware but have not used them (41%), no, I am not aware (5%), don't know (1%). All adult 18-75 n=2069.

x Responses to SQ3 crosscut by age. Full response breakdown: yes, I am aware and have used them (18-24: 66%; 25-34: 70%; 35-44: 64%; 45-54: 55%; 55-75: 31%), yes, I am aware but have not used them (18-24: 30%; 25-34: 25%; 35-44: 33%; 45-54: 37%; 55-75: 61%), no, I am not aware (18-24: 2%; 25-34: 4%; 35-44: 3%; 45-54: 7%; 55-75: 71%), don't know (18-24: 2%; 25-34: 1%; 35-44: 1%; 45-54: 1%; 55-75: 1%). Base: 2069.

xi Responses to SQ3 crosscut by socioeconomic grade. Full response breakdown: yes, I am aware and I have used them (AB: 70%; C1: 52%; C2: 49%; DE: 36%), yes, I am aware but have not used them (AB: 27%; C1: 44%; C2: 44%; DE: 52%), no, I am not aware (AB: 3%; C1: 3%; C2: 5%; DE: 10%), don't know (AB: 1%; C1: 1%; C2: 2%; DE: 2%). Base 2069. AB n=745, C1 n=599, C2 n=290, DE n=435

xii Responses to SQ5.1 crosscut by socioeconomic grade. Full response breakdown: everyday (AB: 18%; C1: 17%; C2: 19%; DE: 11%), several times a week (AB: 44%; C1: 32%; C2: 38%; DE: 23%), several times a month (AB: 19%; C1: 30%; C2: 20%; DE: 35%), less often than once a month (AB: 12%; C1: 11%; C2: 14%; DE: 15%), I used it once or twice to try (AB: 7%; C1: 10%; C2: 8%; DE: 16%), don't know (AB: 0%; C1: 1%; C2: 1%; DE: 0%). Base: All adults who have use any AI tools for personal purposes. AB n=454, C1 n=273, C2 n=126, DE n=150

xiii Responses to SQ5.2 crosscut by education level. Full response breakdown: everyday (graduates: 22%; non-graduates: 17%), several times a week (graduates: 38%; non-graduates: 31%), several times a month (graduates: 23%; non-graduates: 29%), less often than once a month (graduates: 9%; non-graduates: 15%), I used it once or twice to try (graduates: 8%; non-graduates: 7%), don't know (graduates: 1%; non-graduates: 1%). Base: All adults aged 18-75 who have used any AI tools for work. Graduates n=479, non-graduates n=142

xiv Responses to SQ5.2 crosscut by age: everyday (18-24: 15%; 25-34: 23%; 35-44: 24%; 45-54: 15%; 55-75: 19%), several times a week (18-24: 34%; 25-34: 44%; 35-44: 31%; 45-54: 34%; 55-75: 21%), several times a month (18-24: 28%; 25-34: 17%; 35-44: 24%; 45-54: 33%; 55-75: 34%), less often than once a month (18-24: 13%; 25-34: 9%; 35-44: 9%; 45-54: 13%; 55-75: 17%), I used it once or twice to try (18-24: 9%; 25-34: 6%; 35-44: 10%; 45-54: 6%; 55-75: 9%), don't know (18-24: 0%; 25-34: 1%; 35-44: 1%; 45-54: 0%; 55-75: 0%). All adults aged 18-75 who have used any AI tools for work. 18-24 n=62\*, 25-34 n=180, 35-44 n=173, 45-54 n=140, 55-75 n=66\*, \*= Low bases

xv Responses to SQ5.2 crosscut by gender. Full response breakdown: everyday (men: 21%; women: 19%), several times a week (men: 35%; women: 35%), several times a month (men: 26%; women: 24%), less often than once a month (men: 11%; women: 11%), I used it once or twice to try (men: 5%; women: 10%), don't know (men: 1%; women: 1%). All adults aged 18-75 who have used any AI tools for work n=621. Man n=325, Woman n=293

xvi Responses to SQ9. Full response breakdown: I learned it through interacting with the AI tools themselves (65%), through my own research (e.g. online tutorials, videos, etc.) (35%), through friends, family, or colleagues (21%), through training provided by an employer (14%), through an educational course (e.g. at school, college, university, online course, etc.) (6%), in another way (2%), don't know (3%). Base: 1151.

xvii Responses to SQ9 crosscut by socioeconomic grade. Full response breakdown: I learned it through interacting with the AI tools themselves (AB: 66%; C1: 69%; C2: 61%; DE: 64%), through my own research (e.g. online tutorials, videos, etc.) (AB: 43%; C1: 31%; C2: 35%; DE: 23%), through friends, family, or colleagues (AB: 23%; C1: 19%; C2: 23%; DE: 17%), through training provided by an employer (AB: 18%; C1: 10%; C2: 15%; DE: 7%), through an educational course (e.g. at school, college, university, online course, etc.) (AB: 10%; C1: 6%; C2: 3%; DE: 1%), in another way (AB: 2%; C1: 2%; C2: 3%; DE: 2%), don't know (AB: 2%; C1: 3%; C2: 2%; DE: 10%), Base: 1151. AB n=525, C1 n=323, C2 n=140, DE n=163

xviii Responses to SQ7.2 crosscut by net agree and net disagree responses to SQ7.1. Full response breakdown: among those that net agree to SQ7.1: strongly agree (30%), tend to agree (53%), neither agree nor disagree 13%), tend to disagree (3%), strongly disagree (1%, don't know (1%)); among those that net disagree to SQ7.1: strongly agree (4%), tend to disagree (21%), neither agree nor disagree (25%), tend to disagree (27%), strongly disagree (18%), don't know (5%). Base: 1958. Base for understand how AI generate answers is 1058. Base for not understand how AI generate answers is 410

