Generative artificial intelligence in education: call for evidence

Response of the Association of School and College Leaders

A. Introduction

1. The Association of School and College Leaders (ASCL) is a trade union and professional association representing over 24,000 education system leaders, heads, principals, deputies, vice-principals, assistant heads, business leaders and other senior staff of state-funded and independent schools and colleges throughout the UK. ASCL members are responsible for the education of more than four million children and young people across primary, secondary, post-16 and specialist education. This places the association in a strong position to consider this issue from the viewpoint of the leaders of schools and colleges of all types.

2. ASCL welcomes the opportunity to contribute to this call for evidence. Our response is based on the views of our members, obtained through discussions at ASCL Council, with relevant advisory groups, and prompted and unprompted emails and messages.

3. When considering the impact of any proposals on different groups, it is ASCL's policy to consider not only the nine protected characteristics included in the Equality Act 2010, but also other groups which might be disproportionately affected, particularly those who are socio-economically disadvantaged. We have answered any equality impact questions on this basis.

B. Key points

4. We broadly support the Department for Education's statement on generative artificial intelligence (GAI) in education. We agree that
    - used appropriately, GAI could reduce teacher workload, but cannot replace human judgement and subject knowledge
    - education institutions must protect data privacy, review cybersecurity to handle increased risk from AI, and protect students from harmful content
    - the DfE has a central role in supporting schools, trusts and colleges to achieve this
    - schools, colleges, trusts and universities need to continue to prevent examination and assessment malpractice, including involving the use of GAI
    - students need to be taught, and develop the capabilities to judge, the accuracy and reliability of AI output so that they know how to use it appropriately without over-reliance
    - assessments must continue to fairly evaluate students' skills and knowledge and the examination rules and guidance must be regularly updated to respond to developments in AI

- the government should work with experts to identify best practices for using AI in education and workforce training; ASCL is keen to play a role wherever we can add value

5. While we agree that a knowledge-rich curriculum is important to equip students with the knowledge and skills needed to harness AI safely and effectively, we also believe that the curriculum should reflect the skills and specific knowledge that students will need to work with AI successfully.

6. We support the guidance for policymakers on AI and education from UNESCO. AI has potential to enhance education and accelerate progress towards Sustainable Development Goal 4 (SDG4)[1], but also brings risks that must be mitigated through policies and strategies.

7. We agree with UNESCO's view that:
   - AI can support education management, personalised learning, assessment, empower teachers, and promote inclusion
   - AI's efficacy is often unproven, and ethical issues around data, algorithms, and pedagogy must be addressed
   - education systems need to prepare humans to live and work with AI by teaching computational thinking and data literacy, training AI professionals, upskilling workers, and promoting AI literacy for all
   - policy responses should take independent, integrated, and thematic approaches focused on curriculum, data governance, teacher roles, and more

8. We support UNESCO's recommendations, including
   - adopting a humanistic approach to AI in education
   - mobilising expertise for policy planning, ensuring ethical and equitable use of AI
   - developing master plans for using AI
   - monitoring impacts and building the evidence base

9. For UNESCO, the key is to steer AI towards supporting SDG4 while protecting rights and values. Collaboration and openness are essential, and it is in this spirit that we offer our response.

10. We believe that a measured approach should be taken to supporting the use of all AI, including GAI, in schools, colleges and trusts. Whilst innovation around AI needs nurturing and supporting, the priority must be pupil, staff and family welfare and privacy.

11. Ongoing consultation with all related parties including unions, teachers, academia and edtech providers is vital as this area continues to rapidly develop.

12. It is essential that the following is carefully considered:
    - There needs to a national debate about where AI has a role in schools, colleges and trusts, but also where it should not be used.
    - Clear government-generated safeguarding and welfare guidance and policies are needed to control and monitor the use of all AI in schools, colleges and trusts.
    - Student and staff privacy (including data) must be protected, and the use of GAI must comply with UK data protection laws and restrict access to sensitive information.

[1] Sustainable Development Goal 4 is part of the United Nations' 2030 Agenda for Sustainable Development. Specifically, SDG4 aims to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" by 2030.

- Staff (teachers, leaders and support staff) training and CPD should include a focus on AI as soon as possible. This training must guide teachers and leaders on how to effectively and ethically use AI in school, college and trust settings. Staff and students will need to understand the strengths and limitations of the technology, including proper citation of GAI-generated content and avoiding over-reliance.
- The DfE should evaluate how GAI can support the national curriculum goals in different subjects and year groups. Ofqual should provide subject-specific guidance on appropriate GAI use in assessment.
- GAI provides an opportunity to improve inclusion in schools, but this will only be possible if the DfE works to ensure equitable access to high-quality technology, internet connectivity and GAI across all schools and colleges, and pupils and families in all socioeconomic groups. Through schools, colleges and trusts, the government should fund and prioritise access to high-quality technology, internet connectivity and GAI tools for disadvantaged students.
- It would be helpful for the DfE to produce a myth busting leaflet on AI, which should include debunking the myth that AI will replace teachers.

C. Answers to specific questions

Question 1: Have you or your institution used generative AI in an educational setting? If so, could you briefly describe the ways it was used and the specific tools used.

13. Although we have not completed a survey on this, only a small number of members have described using GAI in their settings, and we would surmise that its use is certainly not widespread. Members report not having the headspace to spend time to test using GAI extensively, but they are aware that some of the companies and organisations that they use are already using AI in their products. They are also aware that the area is developing very quickly and that there is much to consider.

14. Members report some staff and students using the following GIA tools:
    - ChatGPT
    - Google Bard
    - ClaudeAI
    - Midjourney
    - DALL·E 2
    - Adobe suite including Photoshop (AI generative fill)

15. One member also reported attending a meeting with an organisation using Otter.AI to generate captions, and was impressed by the accessibility functionality of the tool.

16. At ASCL, we see considerable potential for all of these tools. We have been trying all of them so that we might be able to provide members with appropriate support.

Question 2: What were the main challenges you faced in using generative AI and how did you address these?

17. We list below the main challenges that school, college and trust leaders are facing in using GAI, with each followed by our thoughts on potential solutions.

18. **New technology:** Many (most?) teachers and leaders are not familiar with GAI technology and its applications. Some regard it with suspicion and, in a few cases,

hostility. Learning to use, integrate and monitor GAI effectively requires time and resources.

19. ***Potential solutions:*** Schools and trusts will almost certainly need to appoint a leader with responsibility for AI in the near future, who probably needs to be a member of the senior team. This person will need to have curriculum and pedagogy knowledge, and be given the time, technology and contacts to learn about new AI tools. This post, and the introduction of AI more generally, will be expensive at a time when schools are struggling financially. Schools and trusts will also need to give time and resources to ensure staff can learn about AI. It is important that this is not another add-on in terms of staff and leader time, but rather is seen as central to curriculum, pedagogical development and administration. AI and technology should be part of leadership and teacher training (and should be included in ITT and NPQ frameworks).

20. **Resource constraints:** Implementing GAI requires access to suitable hardware and software, and reliable, fast internet connectivity. At the moment, with considerable budget restrictions, schools with limited resources will struggle to provide the necessary infrastructure for effective GAI integration. In ASCL's *Blueprint for a Fairer Education System*[2] we recommend that capital funding should include the provision of appropriate technology.

21. ***Potential solutions:*** The government must guarantee a secure and fast broadband connection (with published minimum upload and download speeds) for all schools and colleges. Economically, it would make sense to have one centrally purchased broadband contract for all schools. The DfE/ESFA should lay out its expectations of a percentage of capital budget which should be spent on technology.

22. **Accuracy and hallucinations:** GAI is not always accurate. It can 'hallucinate' and produce nonsense answers which can be seductive, particularly to students, as they are well written and appear authoritative.

23. ***Potential solutions:*** AI education, including GAI prompt-writing, critical thinking and accuracy should be part of the curriculum for all students. AI education and technology should also be part of leadership and teacher training (and should be included in ITT and NPQ frameworks). Through regulation, the government needs to apply pressure to companies to stop them releasing AI products and tools before they have been properly and ethically tested.

24. **Ethical and data privacy concerns:** Ethics and data privacy are front and centre of leaders' considerations when using GAI in schools. Concerns about data privacy, bias in AI-generated content, and the appropriate use of AI-generated materials need to be carefully addressed to ensure that students' and teachers' rights are respected.

25. ***Potential solutions***: Government guidance is needed in this area, and the study of ethical considerations should be part of teacher and leader training and all students' education. There needs to be consideration about where AI belongs in schools and where it does not.

26. **Pedagogy:** Teaching methods and pedagogical approaches will have to change as GAI becomes increasingly central to the way we live and work, and any change takes time. Teachers and leaders need to strike a balance between AI-assisted learning and ensuring that critical thinking, creativity, and independent problem-solving skills are valued and encouraged. Integrating AI into the curriculum will demand extra time and

[2] https://www.ascl.org.uk/Microsites/ASCL-Blueprint/Home

effort from teachers and leaders as they learn to incorporate new tools and adapt their teaching strategies accordingly.

27. ***Potential solutions:*** AI and technology should be part of leadership and teacher training (and should be included in ITT and NPQ frameworks). Where possible, AI tools that encourage active engagement and interaction rather than passive consumption should be promoted. These include AI-driven simulations, virtual labs, and interactive learning platforms. ASCL's *Blueprint for a Fairer Education System*[3] calls for the greater use of adaptive assessment in national assessments at all key stages, to reduce the burden of assessment and make it more intelligent and personalised, enabling all children and young people to demonstrate what they can do.

28. **Curriculum:** Integrating AI into the curriculum needs a great deal of time and collaboration to ensure it is done well. It is important that this is not rushed.

29. ***Potential solutions:*** The DfE should review the national curriculum and the school and college assessment framework to take account of AI as part of students' learning and assessment, and make appropriate recommendations.

30. **Loss of personalisation**: Excessive reliance on AI-generated content might lead to a loss of personalised teaching. Striking the right balance between automation and human interaction is crucial.

31. ***Potential solutions:*** It needs to be clearly understood and communicated that (human) teachers will always be essential to students, schools and colleges, but that AI can work alongside teachers to enhance student learning and make planning and assessment more efficient and effective.

32. **Equity and access:** There is a deep digital divide in students' access to technology and AI. Part of this is the cost of the technology itself and of access to the internet; part is access to high-speed broadband in some parts of the country. These issues create disparities in students' exposure to and experience with generative AI tools.

33. ***Potential solutions:*** As above, we believe that technology should be a priority for additional capital funding, and that students from disadvantaged backgrounds should be given access to high-quality technology, high-speed broadband and high-quality AI tools.

34. **Cultural sensitivity:** AI trained on biased data will generate content that reinforces cultural biases. Teachers and leaders need to be vigilant in selecting and modifying AI-generated materials to ensure they are inclusive and sensitive to diverse backgrounds.

35. ***Potential solutions:*** Any AI tool used in schools should be tested to the highest standards before it is released and the data set on which it is trained should be easily available and understood.

36. **Assessment:** Traditional assessment methods might not effectively evaluate students' learning outcomes when AI tools are used. Developing appropriate assessment strategies to measure critical thinking, problem-solving, and creativity becomes crucial.

37. ***Potential solutions*:** There needs to be considerable debate and research about how AI can contribute to assessment. As well as the current concerns about plagiarism, there needs to be work on how AI can contribute to more objective testing and adaptive

[3] https://www.ascl.org.uk/Microsites/ASCL-Blueprint/Home

testing. In the future, AI could lead to better and fairer assessment which might help to address some of the concerns ASCL has about the 'forgotten third' of students who don't achieve at least a grade 4 standard pass in their English and maths GSCEs[4].

38. **Student and family resistance**: Some students and their families might be resistant to new technology or AI integration, either due to unfamiliarity or concerns about its impact on their learning experience.

39. ***Potential solutions:*** We need clear, myth-busting explanations of the use and limitations of technology, and workshops for students and parents.

40. **Continuous evolution:** The field of AI is rapidly evolving, and teachers and leaders will need to stay focussed on the latest developments to make informed decisions about the tools they use and the strategies they adopt.

41. ***Potential solutions:*** Schools and trusts will need to appoint an AI co-ordinator who probably needs to be a member of the senior team. This person needs to have curriculum and pedagogy knowledge and be given the time, technology and contacts to learn about new AI tools.

Question 3: What was the result of your use of these tools, including any impacts?

42. N/A, as we are responding on behalf of members rather than having used these tools ourselves.

Question 4: How do you think generative AI could be used to improve education?

43. We think that GAI could have a particularly strong impact on enhancing schools and reducing staff workload in three areas:
    - student and pupil assessment
    - curriculum and lesson planning
    - guidance and policies

44. We set out some further thoughts on each of these below.

Area 1: Student and pupil assessment

45. **Ethical considerations and challenges**: Ensuring data privacy, transparency in assessment evaluation, and preventing algorithmic biases are paramount in harnessing the potential of GAI without compromising any of the following suggestions for how GIA could change assessment practices.

46. **Personalised learning:** GAI could create personalised learning pathways for students. Although there are considerable barriers to overcome about the use of personal data, GAI could analyse student work for individual learning preferences, strengths, and weaknesses. GAI could create tailored assessment approaches that cater to diverse ways of learning and support adaptive teaching.

47. **Testing and real-time feedback:** GIA has the capacity to be able to dynamically adjust the difficulty of questions based on a student's responses, and offer feedback to the teacher. This might offer a change to the 'one size fits all' assessment which is prevalent now. Real-time feedback could offer learners the opportunity to rectify errors and see

[4] ASCL - The Forgotten Third

the effects of their corrections instantly. This iterative feedback loop could enhance comprehension and retention rates.

48. **Bias mitigation in evaluation:** Although there are huge concerns about bias in the training material for GIA systems, GAI also has the potential to *reduce* human bias in assessment. GAI algorithms, designed to assess anonymised responses based on objective criteria, hold the capacity to evaluate performance solely on what has been written, spoken or seen, rather than the biases like visual cues (such as handwriting or length of work) to which teachers can be subject.

49. **Automated grading systems:** Automated grading assessed against teacher-generated answers could reduce teacher workload, allowing teachers to allocate more time to relational teaching and learning activities.

50. **Data analysis:** Predictive AI (PIA) and GIA can be used to analyse large data sets quickly. These data sets could be generated on single students, groups, classes or whole cohorts. These insights have the potential to inform evidence-based decision-making in curriculum design and pedagogies. Patterns and trends can be very helpful in curriculum design and, in particular, the effectiveness and pace of the delivery of the curriculum.

51. **Creating assessments**: GAI can generate questions, prompts, and scenarios aligned with curriculum intent and objectives which would support the assessment of student responses. GAI could also create collaborative assessment such as case studies or simulations that generate virtual environments for group problem-solving exercises. These could encourage teamwork and nurture collaborative skills (mirroring real-world workplaces).

52. Assessments that are designed around collaboration are always a difficult part of many teachers' work, and GIA may support designing assessment that assesses students' ability to
    - engage in deeper discussions and analyses
    - express their ideas clearly and actively listen to others
    - cooperate and negotiate

53. Many professions require teamwork and collaborative problem-solving, and collaboration prepares students for these environments.

54. Collaborative assessment work and assessment means that students from various backgrounds and viewpoints can contribute unique insights to group discussions and projects.

55. **Plagiarism:** Although many schools leaders are understandably worried about the role of GAI in plagiarism and cheating, GAI could also be very helpful in spotting this by analysing patterns and inconsistencies in student responses.

56. **Skill assessment:** GAI's capacity to evaluate multifaceted skills, beyond rote knowledge, presents an opportunity to assess critical thinking, teamwork, creativity, and communication skills.

Area 2: Curriculum and lesson planning

57. **Data analysis:** GAI and PAI can analyse large sets of data, including student performance, learning trends, and assessment outcomes. By identifying patterns and

correlations, AI could offer insights into which topics or concepts students struggle with and where they excel. This data-driven approach can guide teachers in making informed decisions about curriculum adjustments.

58. **Personalised learning pathways:** GAI could assist in creating personalised learning pathways for students based on their individual strengths and weaknesses. By analysing students' performance data, GAI could suggest appropriate learning resources, activities, and assessments tailored to each student's needs. GAI could predict potential challenges students might face based on historical data and current learning trends. This would allow teachers to address difficulties and adjust their teaching strategies accordingly.

59. **Content recommendations:** GAI could recommend educational resources such as textbooks, online materials, videos, and interactive tools that align with the curriculum objectives. This could save teachers time in researching and selecting relevant materials.

60. **Adaptive teaching:** GAI could help design a curriculum that offers adaptive teaching materials to address the diverse learning needs of students. By identifying varying levels of understanding from assessment and learning paces, GAI could suggest strategies for delivering content to different groups of students effectively.

61. **Alignment with learning objectives:** GAI could analyse curriculum documents and learning objectives to ensure that the content and assessments align closely with the intended learning outcomes.

62. **Real-time feedback:** GAI could offer real-time feedback on curriculum design based on government policies, current educational trends, standards, and best practices which would ensure that the curriculum remains relevant and up to date.

63. **Resource customisation**: GAI could help tailor existing educational resources to match the specific needs of the students and curriculum. This could involve adapting materials to different levels of complexity or language proficiency.

64. **Continuous improvement:** GAI's ability to learn and adapt could support ongoing, and potentially real time, curriculum improvement. By analysing the impact of implemented changes, GAI could suggest further refinements to enhance student learning outcomes.

65. **Professional development:** GAI could recommend professional development opportunities for teachers to enhance their pedagogy, subject knowledge, and technological expertise.

Area 3: Guidance and policies

66. GAI could offer substantial benefits in drafting and refining guidance and policies for Multi-Academy Trusts (MATs), colleges and individual schools in the UK. These include:

67. **Uniformity across MATs**: GAI could ensure consistency and uniformity in policies across multiple schools within a MAT where it could identify areas where policies could be standardised.

68. **Policy alignment with regulations**: GAI could analyse legal and regulatory frameworks specific to MATs, colleges and individual schools. This would help ensure that policies are aligned with current education laws and regulations.

69. **Customisation to school and college context:** GAI could consider the unique characteristics of each school within the MAT or a college when suggesting policy content. It could account for factors like student demographics, location, and specific challenges.

70. **Language and style enhancement:** GAI could refine policy language and style, ensuring clarity, coherence, and adherence to legal standards. This would facilitate effective communication across different schools and colleges.

71. **Efficiency and consistency:** GAI could expedite policy creation by generating initial drafts. This would save time for policy writers and administrators while maintaining a consistent format and structure.

72. **Legal compliance checking:** GAI could cross-reference policies with the latest legal guidelines, flagging potential compliance issues or areas needing further attention.

73. **Risk assessment:** GAI could identify potential risks associated with specific policies and suggest measures to mitigate those risks.

74. **Review and revision:** As regulations evolve, GAI could monitor changes and recommend updates to policies. It could help maintain policies that are up to date and aligned with current standards.

75. **Multilingual support:** For MATs, college and schools with diverse student populations, GAI could assist in translating policies into various languages, ensuring accessibility for all stakeholders.

76. **Public engagement:** GAI could assist in crafting policies with clear language, making them more understandable to parents, students, and staff. This enhances transparency and community engagement.

77. **Consolidation of policies:** GAI could help in streamlining and consolidating policies that are applicable across multiple schools within a MAT.

78. **Resource allocation:** By saving time in policy creation and review, GAI could help staff and policy writers to allocate resources to other strategic initiatives within the MAT, college or schools.

79. **Note:** With its ability to use historical and current data to spot patterns and extrapolate potential futures, we also think that predictive AI has a place in education too.

Question 5: What subjects or areas of education do you believe could benefit most from generative AI tools?

80. **Computer science / programming:** GAI might serve as a platform for introducing students to algorithmic thinking, machine learning, and, at advanced level, neural networks. It could allow students to experiment with coding and create basic AI-driven applications, contributing to a broader understanding of technological concepts.

81. **Art and design:** Within visual arts and graphic design, GAI could provide assistance in generating unique designs, patterns, and artwork as a comparison and a baseline for students. This could encourage students to explore different creative directions and introduce students into the possibility of automating certain, repetitive or time-intensive design tasks.

82. **English and creative writing:** GAI could be an inspiration for creative writing by generating prompts, characters, and storylines. Students might be able to use AI-generated content to spark their creativity, experiment with various writing styles, and refine their writing skills. GAI might support linguistics by generating examples and explanations of technical language (for example, phonetics, syntax, semantics and morphology).

83. **English and humanities:** There is potential for students to be able to use GAI to analyse texts and learn about how analysis changes depending on the prompts that are used. This could be particularly beneficial for students with special educational needs and disabilities (SEND).

84. **Maths:** GAI might offer visualisations, models, and equation solutions to aid in conceptual understanding. Interactive simulations could assist students in grasping complex mathematical ideas, potentially supporting more abstract thinking. We are conscious of reports of inaccuracies in GAI's responses to questions in certain (advanced) areas in maths. Students would benefit from understanding how GAI can spot patterns and issues in very large data sets.

85. **Music:** GAI could support students in creating melodies, harmonies, and rhythms. It might enable students to explore different musical genres and styles, encouraging them to expand their musical horizons.

86. **Modern foreign languages:** Generative AI could offer language learners interactive exercises, quizzes, and simulated conversations. It might help in practising grammar and vocabulary while providing cultural context for holistic language. It is likely that GAI such as BARD will provide increasingly accurate translation services, but the challenge with GAI will be dialects and idioms, and students will benefit from analysing translations to look for the differences in 'correct' and natural translations.

87. **History:** Generative AI could bring history to life by creating narratives, speeches, and dialogues from different historical periods. Simulated historical events might offer students a chance to engage more deeply with the past and encourage critical thinking.

88. **Science:** Within science subjects, generative AI could potentially assist students in visualising things that are difficult to see in a laboratory because they are complex, dangerous or expensive. It should help make abstract scientific concepts more tangible.

89. **Engineering and robotics:** GAI should aid in the design and simulation of projects and prototypes. Students could use AI-generated 3D CADCAM models on screen before production.

90. **Social sciences:** Generative AI could generate hypothetical scenarios that allow students to explore human and group behaviour within different psychological and social contexts and theories.

D. Conclusion

91. The integration of generative AI into education holds considerable promise, but also poses risks. ASCL believes a measured, collaborative approach is needed to harness the benefits of AI while safeguarding student and teacher rights. Central guidance, equitable access, considered curriculum development, pedagogical evolution, and ongoing dialogue will be key.

92. ASCL agrees that generative AI could enhance personalisation, efficiency, and inclusion if deployed ethically. It also has potential to reduce teachers' and leaders' workload through automation, particularly in the areas of lesson planning, assessment and policy and guidance. However, human judgement remains essential; AI is not a teacher replacement. Controls must ensure data privacy, prevent plagiarism and over-reliance, and, vitally, mitigate algorithmic biases. Curriculum and assessment need developing to develop students' capabilities for judging AI output critically.

93. Leaders and teachers require support through training, designated AI leadership roles, and time to learn. Investment in infrastructure and disadvantaged students' access is vital for equity. Policymakers must shape AI's use towards supporting, not supplanting, teaching staff in achieving educational goals. Regular impact monitoring, collaboration and openness are imperative as this fast-evolving technology is integrated.

94. I hope that this response is of value to your call for evidence. ASCL is willing to be further consulted and to assist in any way that we can.

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