

## Submission to Parliamentary Inquiry: The use of Generative AI in the Australian Education System.

On behalf of: The Australian Science and Mathematics School, South Australia

Due: July 14th

The Australian Science and Mathematics School, a public high school in Adelaide for Year 10-12 students with a passion for maths and science, uses generative AI tools to support students' learning, and supports students to do the same. Our position, following advice from DfE and the SACE Chief Executive in SA, is that AI use needs to enhance rather than replace learning, and we have guidelines for students and staff that articulate what this looks like in practice. Below are our experiences with generative AI in the education system.

Terms of reference:

### 1. The strengths and benefits of generative AI tools for children, students, educators and systems and the ways in which they can be used to improve education outcomes.

- Personalised tutoring - students with access to written generative AI can ask for explanations of concepts in multiple styles, with follow up prompting to target specific areas until they understand. This reduces reliance on teacher-led explanations, allowing teachers to target their support more effectively, and increases pedagogical flexibility. Internet searching in general can also achieve some of these goals but is more time-consuming when looking for rarer styles of explanation.  
Improves: student understanding, student access to education
- Accessibility - students can ask questions of AI any time they have access to technology, which is more often than they have access to a teacher or other sources.  
Improves: student access to education
- Idea generation - students having a creative block or who are stuck on choosing an idea can generate lists of ideas, helping them to overcome early stuck points in thinking processes and be inspired by ideas they may not have considered.  
Improves: student motivation, time
- Time saving - generative AI's ability to summarise long texts means research can be shortened significantly by identifying relevant texts more quickly, and it can perform menial tasks such as sorting information under headings or in tables more quickly than

a human.

Improves: time

- Creating learning activities - students can generate additional learning activities for themselves, such as quizzes or flashcards.

Improves: potential for student learning

- Feedback - Generative AI can be another source of feedback for students on the quality of their work.

Improves: student learning

- Polishing, editing, condensing or adapting appropriate tone: Students have another tool to polish and edit work as part of their revision and drafting processes. AI can be utilised to correct punctuation, grammar, spelling, word choice, length, tone, mood, vernacular, formality almost anything. This can be a benefit and a risk, depending whether teachers are assessing or trying to develop students' understanding of how to communicate independently, precisely and fluently.

Improves: quality of work

- Exemplars - teachers are able to create exemplars for students to evaluate the strength and weaknesses thereof, allowing deeper analysis of text types and expectations and saving significant teacher time in creating these exemplars themselves when developing new assessment or learning tasks.

Improves: teacher time and student resources

## 2. The future impact generative AI tools will have on teaching and assessment practices in all education sectors, the role of educators, and the education workforce generally.

- Learning activities and assessment must be designed with AI in mind, so that AI is less able to be used to do all the thinking for students. As AI evolves, so too will teachers' design of formative and summative tasks. There are benefits to constantly reviewing and changing learning and assessment when the student is at the centre of this change, however when this constant changing of design and the associated

administration is in response to AI's abilities these changes are costly. This is a highly time-consuming process not accounted for in current practices and loads.

### 3. The risks and challenges presented by generative AI tools, including in ensuring their safe and ethical use and in promoting ongoing academic and research integrity.

- Some AI bypasses paywalls (they're limiting that as I type) which is unethical.
- Students are using generative AI to write assessments for them, in direct contradiction to SACE and school policies about not receiving undue assistance with assessed work. AI checkers are unreliable, meaning reliance on teacher knowledge and judgment is the best method of detecting improper AI use. These skills vary widely between teachers. The time it takes to identify AI, follow a range of processes to check, discuss with students and parents and re-educate students is significant and additional to usual marking loads and can lead to friction between teachers, students, parents and leaders since there is sometimes no absolute "proof" - and the final decision comes to teacher judgement.
- Students do not always have the knowledge or critical thinking skills to identify AI-generated falsehoods and can learn incorrect information from it.
- Students are using generative AI to shortcut learning activities, and in the process not doing the thinking and learning the activity was designed to promote.
- Generative AI tools often have age-restricted terms and conditions. Schools cannot use them as the sole option for activities without parental permission.
- Generative AI tools may be trained on 18+ or other inappropriate content that would not usually be permitted in a school setting, and may generate answers based on that content - we have found at least one incident of an image-based AI able to generate sexualised content.
- Idea generation - some students use generative AI to create lists of ideas. This may limit their creative skills in developing their own ideas and limit the outcome of their work if the ideas from AI are overly generic and do not match what the student would have been able to do without AI use.

4. How cohorts of children, students and families experiencing disadvantage can access the benefits of AI.

- Generative AI has some capabilities similar to what a tutor can offer, and some options are free to access.
- Generative AI has options that are a free alternative to a number of paid resources, such as paid versions of grammar checkers.

5. International and domestic practices and policies in response to the increased use of generative AI tools in education, including examples of best practice implementation, independent evaluation of outcomes, and lessons applicable to the Australian context.

Though there has been some immediate response from tertiary institutions the education industry is still considering 'best practice', in fact many schools are either taking zero tolerance or waiting for leadership in this space before deciding on their next move.

6. Recommendations to manage the risks, seize the opportunities, and guide the potential development of generative AI tools including in the area of standards.

In the medium to long term there will need to be an education campaign highlighting the benefits of AI as a work and education tool but also the importance of independent, critical and creative thought of being a human. There is a danger that the ubiquity, ease and normalisation of using AI to do the thinking will lead to an under-educated generation.

Allow increased flexibility in assessments (particularly at higher grade levels, as lower ones are quite flexible) so schools have the freedom to design assessments and conditions to reduce unethical use of generative AI by students.

Publish resources that support students and teachers to become proficient users of AI, including understanding the benefits and limitations.

Support schools with standards of use for AI.

It is our view that generative AI is a digital literacy we want our students to engage with, as they engage with many other technological tools that can extend what they are capable of. However, we do not want to replace their learning and so this requires that we rethink our current processes and practices, or the system as a whole rethinks what is being assessed.

Sincerely,

Amanda Brook and colleagues, on behalf of the Australian Science and Mathematics School.