Australian Council of State School Organisations Limited

Submission

to the

House of Representatives

Inquiry into the use of generative artificial intelligence in the Australian education system

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Please indicate your name if an individual, or your organisation name if you are responding on behalf of an organisation.

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Introduction

The Australian Council of State School Organisations (ACSSO) is the voice for the families and communities of Australia's 2.6 million government school students. We are one of Australia's oldest continuously operating national parent organisations and possibly the world's oldest. We were established in 1947 to bring together various state and territory parent organisations and other families interested in public education to develop national policies that reflect how families want public education to be provided for all children. Membership varies due to differences in how our members in state and territory peak parent organisations have addressed national issues over time; however, our commitment to promoting equality and access for all young people attending government schools in Australia remains consistent.

We believe that the primary responsibility of governments, federal, state and territory is to establish and maintain government education systems that:
- positively engage with family and community at all levels of education.
- are of the highest standard and open to all, regardless of race, gender, religion, social/economic status, geographic location, or ability; and
- can respond to changing educational landscapes by developing flexible and diverse programs to meet all student needs.

ACSSO recognises the potential of generative Artificial Intelligence (AI) tools to greatly enhance education outcomes for children, students, educators, and education systems throughout Australia. The incorporation of AI tools in education brings numerous advantages and will continue to advance and strengthen. It is imperative that we embrace this technology. However, it is essential to acknowledge the challenges that AI presents within the Australian education context and ensure that users remain vigilant and informed.

Some AI tools available aim to provide customised learning experiences for students by generating content, lessons, and assessments tailored to individual needs and learning styles. While these tools are helpful, there is a concern that they might restrict creativity and original thinking. To ensure a comprehensive education, it is important to strike a balance between the use of AI tools and other teaching methods.

AI-powered interactive learning is transforming education, benefiting students through simulations, virtual environments, and interactive games that encourage active participation and foster a deeper understanding. For teachers, these tools offer immediate feedback and assessment capabilities, enabling them to identify areas for improvement. However, it is crucial to remember that education is fundamentally a relational process, and young people have diverse learning styles.

In the realm of language learning, AI tools can be valuable but should be approached with caution. Chatbots and virtual tutors can facilitate interactive conversations and reinforce learning, but they should supplement face-to-face interaction rather than replacing it entirely. Over-reliance on AI-powered tools may hinder the development of critical thinking and problem-solving skills. While AI tools offer various features to assist language learning, it is important to maintain caution and consider them as additional resources rather than sole substitutes for in-person interaction.

Considering the potential limitations of AI tools is also crucial. Like any technology, their use should be balanced with other forms of learning to ensure a well-rounded education.

One of the advantages of using AI tools is efficient content creation for educators. They can automate the development of quizzes, lesson plans, and instructional materials, freeing up time for individualised instruction and student support.

Additionally, AI tools offer data-driven insights by analysing extensive educational data. This analysis allows for the identification of patterns, trends, and learning gaps, empowering educators and policymakers to make informed decisions and design targeted interventions to improve educational outcomes.

Recognising the widespread existence of AI tools in various parts of our lives, investing in research to create AI tools that meet Australia's educational needs and align with the curriculum and can offer significant advantages. Further to this, we need to provide professional development programs to teachers on effectively integrating these tools into their teaching methods. Parents also must be part of this transformation and be part of the sharing of learnings to support their children as well as add AI to their tool kit.

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.

Incorporating AI tools in education could be a game-changer for learning outcomes in Australia. The benefits of using these tools are numerous and could positively impact children, students, educators, and the entire education system.

With AI tools, students could enjoy a personalised learning experience that caters to their unique learning styles and needs. These tools analyse student data and generate customised content, lessons, and assessments considering each student's strengths and weaknesses. This allows for a more effective and efficient learning process, ensuring that students receive the support they need to succeed.

AI tools have the potential to enhance creativity in children and students by providing prompts, ideas, and suggestions for various creative projects, writing assignments, or artistic endeavours. This can help stimulate innovative thinking and originality, ultimately leading to more exciting and unique outcomes.

Interactive learning becomes more engaging and enjoyable with the help of AI tools. Students can benefit from simulations, virtual environments, and interactive games that simplify complex concepts, promote active participation, and encourage a deeper understanding of the subject matter.

One significant benefit of using AI tools in education is the ability to provide instant feedback and assessment to students. This can be extremely helpful for educators as it saves time and allows

students to receive timely guidance. The tools can analyse and evaluate student responses, essays, or problem-solving approaches and provide constructive feedback. This feedback can help students identify their areas of weakness and improve upon them.

AI tools have proven to be highly useful in language learning. They offer features such as real-time translation, grammar correction, and pronunciation assistance that can help students in mastering a new language. AI-powered chatbots and virtual language tutors provide interactive conversations and language exercises that enable students to practice their language skills effectively.

In education, AI tools can play a vital role in promoting accessibility and inclusivity. Through text-to-speech features, students with visual impairments can benefit from these tools. They can also generate alternative formats for content and provide translation support for students with culturally and linguistically diverse (CALD) backgrounds, making learning more effective and inclusive.

AI tools could analyse vast amounts of educational data and provide helpful insights. These insights can help educators and policymakers make informed decisions by identifying patterns, trends, and learning gaps. With this information, targeted interventions can be designed to improve educational outcomes.

Australia should invest in research and development to leverage the benefits of AI tools in education to create specialised tools tailored to the country's curriculum and educational needs. Additionally, professional development programs can be implemented to train and inform educators on effectively integrating AI tools into their teaching practices, ensuring they maximise the benefits of these tools while maintaining a balance between teacher instruction and support.

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.

The impact of AI tools on teaching and assessment practices in all education sectors in Australia is likely to be significant. Educators and the education workforce need to consider the future implications of this technology. ACSSO has identified several crucial considerations pertaining to the future impact of AI tools and the role of educators and the education workforce. These include:

- It is important to be cautious when using AI tools for adaptive learning. While these tools can potentially personalise learning experiences for students, educators must be careful not to rely solely on AI insights. The relationship between the teacher and the learner is pivotal to the student's success. It is essential to balance leveraging AI insights and maintaining the value of teacher instruction and support for individual students.
- As AI tools gain popularity in education, educators should be cautious about relying too heavily on the data they provide. While the abundance of information on student performance, engagement, and learning patterns can be helpful, it's important to remember that it's only one piece of the puzzle. Educators must also consider other factors, such as individual student needs, classroom dynamics, and teaching styles. Additionally, developing data literacy skills is crucial to effectively analyse and interpret the data, as misinterpretation could lead to incorrect instructional decisions. Therefore, it's essential for educators to use data as a tool rather than relying on it as the sole basis for instructional decisions. We must never forget that we are developing the whole student.
- While AI tools may seem like a promising solution to transform assessment practices, it is important to note that educators will still be responsible for interpreting and contextualising AI-generated assessments, ensuring fairness, and providing qualitative feedback. AI tools can streamline the assessment process but should not be solely relied upon. AI-generated

feedback should be used to complement (and often validate) in-person assessments and individualised attention from educators.

- Educators should proceed cautiously when implementing AI tools in collaborative learning environments. While these tools can promote peer learning and idea sharing, it is crucial to ensure that students continue to actively work with a collaborative team approach and teachers must carefully monitor these activities to ensure students develop essential teamwork and communication skills.

- Considering the rise of AI tools, there may be a shift towards developing higher-order cognitive skills such as critical thinking, problem-solving, and creativity. However, educators must exercise caution and be mindful of the dangers of over-reliance on automation. They should focus on cultivating these skills through project-based learning, inquiry-based approaches, and real-world problem-solving activities while also emphasising AI technologies' limitations and ethical considerations. Balancing AI's benefits and potential drawbacks is crucial to ensure a safe and productive learning environment.

- It is critical that educators undergo ongoing professional development to integrate AI tools into education effectively. They must become informed and practised with regard to the capabilities and limitations of AI tools, be skilled in critically evaluating their impact on student learning outcomes, and seamlessly integrate them into their teaching practices. Continuous professional development programs will ensure that educators stay updated on emerging AI technologies and their applications in education. There can be no compromise on this.

- It is imperative to address the ethical considerations surrounding using AI tools, particularly regarding data privacy, algorithmic bias, and the impact on human relationships in education. It is the responsibility of educators to actively engage in discussions and receive proper training to navigate these ethical challenges. Moreover, ensuring that AI technologies are used in an inclusive, equitable, and responsible manner is crucial.

- It is of greatest concern to ACSSO that not all students will have access and opportunity to embrace AI to the same extent. Both lack of technology and/or connection to the internet are inequities that are faced by many but in particular students in rural and remote locations and those for whom cost is prohibitive

ACSSO believes that the use of AI tools in the Australian education sector can potentially bring about significant changes in teaching and assessment practices. While educators will continue to play a crucial role in guiding and supporting students, AI tools can be leveraged to enhance instruction and ensure that technology integration aligns with educational goals and values. To navigate the changing educational landscape effectively, the education workforce must adapt to technological advancements and embrace continuous professional development.

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.

Potential risks and challenges must be carefully addressed to ensure their use is safe and ethical while maintaining the integrity of academic and research practices in Australia.

Acknowledging and addressing the following risks and challenges is important.

- These tools have the potential to unintentionally reinforce biases and stereotypes present in the data they are trained on, leading to discrimination and systemic inequalities. To avoid perpetuating these issues, it is essential to develop and use these tools in a way that promotes fairness and actively works to mitigate bias. Regular auditing and evaluation of the

algorithms and models used by these tools is necessary to ensure responsible and ethical use.

- It is crucial to exercise caution when using AI tools due to their heavy reliance on personal data. Ensuring the safety and privacy of this data should be a top priority. Robust privacy policies and security measures must be implemented to protect the data used and generated by these tools. It is necessary to adhere to data protection laws and regulations. Additionally, transparent practices must be adopted to inform individuals how their data is utilised.

- There is a potential risk of plagiarism or unethical use of AI-generated content. To maintain academic integrity, it is crucial to establish clear guidelines and educational programs that promote proper citation, attribution, and responsible use of AI-generated materials. Institutions must also develop policies and procedures to ensure that academic standards are upheld when using AI tools.

- Although these tools can be helpful, they should not replace human expertise entirely. The unique value that human educators and researchers bring to the learning process should not be overlooked. Rather than relying solely on AI, it is important to strike a balance and encourage collaborative approaches that emphasise partnership between humans and AI.

- The underlying processes and decision-making mechanisms can be difficult to comprehend, resulting in potential issues with trust and accountability. To prevent this, it is crucial for researchers and developers to prioritise transparency and explainability by providing clear documentation, sharing methodologies, and engaging in open dialogue regarding limitations and potential biases. These measures can help mitigate any potential risks of utilising AI tools.

- Appropriate governance and regulation are necessary to ensure the ethical use of AI tools in education. We recommended that governments and educational institutions establish guidelines and policies that address the responsible deployment, use, and monitoring of AI tools. This may include setting up ethical review boards, promoting best practices, and engaging in ongoing stakeholder dialogue.

- Adequate and ongoing training and upskilling programs are necessary to ensure that educators and researchers can use these tools effectively and ethically. Professional development opportunities should be provided to equip these individuals with the necessary skills to understand, integrate, and critically evaluate AI-generated content and assessments. This includes training on data literacy, algorithmic bias, and ethical considerations. To ensure the safe and ethical use of AI tools while maintaining academic and research integrity in Australia, ACSSO believes that it is imperative for educators, researchers, policymakers, and AI developers to collaborate. A multidisciplinary approach involving experts from various fields should be adopted to address associated risks and challenges effectively.

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

While AI can potentially provide opportunities for groups of Australian children, students, and families facing challenges, ACSSO believes it is important to proceed with careful planning and consideration of individual circumstances to allow for access and opportunity.

In Australia, students in remote or disadvantaged areas may face barriers to accessing AI systems due to the requirement for advanced technology and internet connectivity. This can further widen the existing digital divide and inequalities in access to quality education. Ensuring equity and accessibility should be a priority in implementing AI technology in education.

- It is important to be aware that AI-powered adaptive learning platforms can provide personalised learning experiences that are tailored to students' individual needs. However, caution should be exercised when utilising these tools, particularly for children and students experiencing disadvantage, as there is a risk of becoming overly reliant on technology. It is crucial to ensure that students still receive human interaction and support and utilise other educational resources to avoid the potential negative effects of over-reliance on AI tools. Additionally, while AI can identify gaps in knowledge and provide remedial materials, it is essential to evaluate the accuracy and effectiveness of these interventions to ensure that they are helpful and appropriate for each individual student.

- The advancement of AI technology has the potential to level the playing field for students by providing equal access to educational resources. AI platforms offer online libraries, educational materials, and digital resources to ensure that all students can access high-quality educational content regardless of socioeconomic status. This especially benefits disadvantaged families who cannot afford costly textbooks or e-learning resources. Thanks to AI, these students can now access free or affordable educational content, which has the potential to significantly contribute to their academic success.

- AI-powered tools offer great promise in supporting language development and literacy skills for children and students from diverse backgrounds. With interactive language instruction, speech recognition, and pronunciation support, AI-powered language learning platforms can provide a fun and engaging way for learners to improve their skills. Natural language processing algorithms could potentially detect and address language and literacy difficulties, providing customised interventions and feedback. This cutting-edge technology can provide a world of opportunities for learners to develop their language skills and achieve their full potential.

- Providing children and students from disadvantaged backgrounds with digital literacy and technology skills is crucial for their future success. Interactive platforms and virtual environments powered by AI could facilitate digital skills development. These resources include coding platforms, AI programming courses, and simulations that enrich technological proficiency and equip students with the necessary skills to excel in the digital era.

- AI is proving to be a valuable ally in the education sector, especially for students with special educational needs. With the help of AI-powered assistive technologies, students with learning disabilities or cognitive impairments can now enjoy a more inclusive and engaging learning experience. Speech-to-text and text-to-speech tools are just some of the many ways AI can help overcome learning barriers. Additionally, virtual and augmented reality applications can create a learning environment catering to diverse needs, promoting understanding and active participation. This is truly a game-changer for the education sector, making learning accessible and enjoyable for everyone.

- AI-powered tools can be incredibly helpful in guiding students through the tertiary education and career planning process. By offering tailored recommendations based on individual interests, skills, and aptitudes, virtual advisors can assist in identifying scholarship opportunities, vocational training options, and relevant career pathways. This support is especially important for those who may face disadvantages, ensuring that they have access to the resources and guidance necessary to pursue higher education and fulfilling careers.

- With AI-powered resources and tools, parents can actively participate in their child's learning journey. AI-powered platforms can provide easy-to-use interfaces, progress tracking, and communication channels between educators and parents. This collaboration fosters a supportive environment that empowers parents to help their children's development, especially for those facing barriers to involvement.

To ensure fairness, it is crucial that AI is implemented in a way that supports disadvantaged communities inclusively. This can be achieved by taking steps to recognise and address any potential biases in AI algorithms, providing education and support to educators and families on AI technologies, and designing AI tools with the user's needs in mind.

It is essential to foster collaboration among Australian educational institutions, community organisations, and government agencies. This will enable equal access to AI technologies and support services for children, students, and families facing disadvantage.

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.

AI tools in education have increased significantly, providing innovative ways of teaching, learning, and creating content. Nevertheless, it is crucial to consider the ethical and privacy concerns that arise from their use and their potential impact on student learning outcomes.

International Practices and Policies

United States

The U.S. Department of Education's Office of Educational Technology released a report titled *Artificial Intelligence and the Future of Teaching and Learning: Insights and Recommendations,*[1] establishing guidelines for the ethical use of AI in education. These guidelines emphasise the importance of transparency, accountability, and privacy protection. They recommend that schools and educational institutions develop clear policies and procedures for using AI tools, including informed consent from students and families and regular audits to ensure compliance.

European Union

The EU's General Data Protection Regulation (GDPR)[2] addresses the use of AI and sets strict guidelines for protecting personal data. Educational institutions must ensure that AI tools comply with the GDPR, including obtaining explicit consent, providing transparent information, and implementing appropriate security measures.

New Zealand

The Ministry of Education in New Zealand[3] has released guidelines on using AI in education. These guidelines emphasise the importance of student agency, equity, and inclusion. They encourage educators to consider AI tools' potential biases and ethical implications, engage in ongoing professional learning, and involve students in decision-making processes.

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[1] https://www2.ed.gov/documents/ai-report/ai-report.pdf?utm_content=&utm_medium=email&utm_name=&utm_source=govdelivery&utm_term=

[2] https://www.europarl.europa.eu/RegData/etudes/STUD/2020/641530/EPRS_STU(2020)641530_EN.pdf

[3] https://gazette.education.govt.nz/articles/how-chatgpt-can-be-a-valuable-asset-to-education/

Domestic Practices and Policies

Australian Curriculum, Assessment and Reporting Authority (ACARA)

ACSSO is aware that ACARA has recognised the growing use of AI tools in education and is working towards incorporating AI literacy into the Australian curriculum. This includes developing resources to help students understand the capabilities and limitations of AI and fostering critical thinking skills to evaluate AI-generated content.

Office of the eSafety Commissioner

The eSafety Commissioner[4] plays a crucial role in promoting online safety in Australia. ACSSO understands that the eSafety Commissioner is currently developing resources and guidelines to support schools in addressing online risks related to AI tools. These resources will cover topics such as cyberbullying, privacy concerns, and responsible technology use and are designed to empower students, educators, and parents to navigate the digital world safely.

Examples of Best Practice Implementation

Finland

The education system in Finland is highly praised for its outstanding quality, which includes integrating AI education into its curriculum. Students are taught about AI technologies' ethical concerns and how to use AI tools responsibly. By providing this extensive education, students gain the necessary knowledge and abilities to navigate the AI-driven world with proficiency.

Singapore

The Singapore Ministry of Education[5] has collaborated with industry partners to develop AI tools that enhance teaching and learning. These tools are aligned with the curriculum and are subject to rigorous evaluation to ensure they meet educational objectives. Additionally, the ministry provides professional development programs for teachers to effectively enhance their understanding and use of AI tools.

Independent Evaluation of Outcomes

Organisation for Economic Co-operation and Development (OECD)

The OECD has conducted thorough research and evaluation studies on using AI in education. The research assesses the impact of AI tools on learning outcomes, student engagement, and equity in various countries. These evaluations provide valuable insights for educators and policymakers to make informed decisions about integrating AI tools into educational practices.

Independent research institutions

Collaboration between educational institutions and independent research organisations can yield significant benefits in gaining insights into the effectiveness and impact of AI tools. Independent evaluations can help identify potential biases, address privacy concerns, and assess the effectiveness of AI tools in improving student learning outcomes. This approach could lead to constructive improvements in the education sector.

Lessons Applicable to the Australian Context

As Australia's interest in AI grows across education and various industries, it's important to look towards global AI implementations and learn from them to apply locally. ACSSO strongly believes that ethics should be prioritised in AI development and deployment. This includes prioritising transparency, accountability, and fairness. Additionally, regulatory frameworks should be flexible

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[4] https://www.esafety.gov.au/

[5] https://www.tech.gov.sg/media/technews/tech-and-education-how-automation-and-ai-is-powering-learning-in-singapore

enough to balance innovation and safety. Collaboration with other nations can help promote consistency, and investing in education and research can help foster a proficient workforce. Addressing biases and ensuring data privacy and security are crucial. Fostering partnerships among businesses, educational institutions, and government entities can foster advancements in AI, enhance economic prosperity, and ensure a bright future for the youth of Australia.

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

The advancement of AI tools has vast potential for revolutionising various industries and improving our lives. However, it also poses significant risks that require proper management. ACSSO lays out crucial recommendations for mitigating risks, seizing opportunities, and establishing standards in developing and deploying AI tools.

Risk Mitigation:
Ethical Frameworks:
When utilising AI tools, it's crucial to establish ethical standards that prioritise fairness, transparency, privacy, and accountability. To create a comprehensive framework, it would be advantageous to engage diverse experts, such as ethicists, policymakers, and domain specialists.

Responsible Disclosure
It is important to promote responsible disclosure of any vulnerabilities or potential misuse of AI tools by developers and researchers. Creating a culture of transparency and openness is crucial in promptly identifying and addressing potential risks.

Regulation and Governance
Working with governments and international organisations is important to create well-defined regulations and governance structures for AI tools. These regulations should aim to find a middle ground between promoting innovation and preventing any potential harm.

Adversarial Testing
It is advisable to consider investing in strong adversarial testing for detecting weak points in AI systems. It is recommended to regularly test AI models with adversarial inputs to ensure their resistance to potential manipulations or malicious attacks.

Seizing Opportunities:
Collaborative Research
Collaboration between academia, industry, and government can accelerate the development of AI tools. Sharing resources and knowledge through teamwork eliminates redundancies and promotes swift progress.

Industry Partnerships
Encourage the formation of alliances between developers of AI and stakeholders in different sectors to customise AI solutions that are suitable for specific industry requirements. This will lead to mutual benefits for both parties, resulting in a positive outcome.

Public-Private Initiatives
Promoting collaboration between the public and private sectors in utilising AI tools to tackle significant societal issues, such as healthcare, climate change, and education, is important. We should encourage the use of AI to improve society and its advancement.

Education and Awareness

Investing in initiatives that educate the public on AI tools and their potential applications would be advantageous. It would enhance people's understanding of the technology and promote responsible usage in society.

Standards Development:

Interoperability

Promoting compatibility between different AI tools and platforms can improve the overall AI environment. One way to achieve this is by setting up standards that make integration and sharing of data seamless.

Performance Metrics

It would be beneficial to establish standardised performance metrics that can assess the quality, fairness, and safety of AI models. This would enable users to make informed decisions on which tools are most suitable for their requirements.

Data Privacy and Security

Ensuring data privacy and security in AI systems is crucial, requiring strict guidelines to be put in place. Safeguarding sensitive information and maintaining anonymity are key steps to prevent potential misuse or unauthorised access.

Explainability

Establishing guidelines for model explainability is crucial in ensuring that AI tools are comprehensible to users. By utilising transparent and interpretable AI models, trust can be fostered among both users and regulatory entities.

By working together, we can maximise the potential of AI while ensuring that risks are managed, opportunities are embraced, and strong standards are maintained. ACSSO is confident that by adhering to the guidelines provided, we can responsibly incorporate this technology into our school communities, promoting innovation and mitigating potential challenges.

Family engagement

The role of parents in their child's education is crucial. Their involvement is a significant factor in determining their children's success. Family engagement means having a positive attitude towards their child's learning by providing guidance, encouragement, and a conducive environment for learning at home. With the increasing use of technology like ChatGPT and Chatbots, parents may need assistance navigating this area to be relevant to their children as a source of support and advice. AI has been seen as a great equaliser by providing access to technology that can offer guidance and help with homework or assessment issues.

Many parents worry about how to assist their children in navigating new technology when they lack the necessary skills and knowledge. ACSSO recognises that as work on generative AI in education progresses, work on at-home learning must also progress. ACSSO advocates for a commitment to communicate with parents for them to understand how generative AI is utilised in education and how they can best support their children's use of this technology.

Conclusion

In conclusion, the integration of AI tools in education holds immense potential for transforming the learning experience and improving educational outcomes. These tools offer customised learning experiences, efficient content creation, and data-driven insights, empowering both students and

educators. However, it is crucial to approach AI in education with caution, ensuring a balance between AI tools and other teaching methods to promote creativity, critical thinking, and personalised instruction. As AI continues to evolve, investing in research, development, and professional development programs for educators becomes essential. By embracing AI while maintaining the relational aspect of education, we can harness the full benefits of this technology to create a more effective and inclusive learning environment for all.