



Overview

AI, Learning and the Developing Person

Strategic Research Program aligning research and practice guided by the question:
What is the impact of Generative Artificial Intelligence on young minds (PreK-12)?

Artificial intelligence is changing the way young people learn, create, and engage with the world, yet many questions about its impact on the developing mind remain unanswered. Through a coordinated portfolio of projects, partnerships, and professional learning initiatives, this strategic research program investigates how GenAI influences learning, human development, and flourishing. Bringing together Barker's intellectual resources and collaborators from across the educational community, the program seeks to align research and practice, generate new knowledge from educational experience, and support thoughtful, evidence-informed responses to one of the defining educational challenges of our time.

RAPID LITERATURE REVIEW | THE UNIVERSITY OF SYDNEY

GROUNDING UNDERSTANDING. INFORMING ACTION.

The starting point to this research program was a partnership with the University of Sydney which led to the publication of a rapid literature review. The review provided a synthesis of emerging evidence on the impact of Generative AI (GenAI) on young people in PreK-12 settings. Focusing on implications for learning, development, and educational practice, the literature review informed the design, focus, and co-ordination of the research program outlined in this overview.

The literature review identified 835 studies relevant to the impact of GenAI on PreK-12 minds published since 2022. The review process narrowed the list to 363 studies for inclusion, with 243 studies identified as particularly significant.

Early findings suggest in some contexts AI may support student motivation, engagement and confidence but the evidence around deeper learning outcomes (from memory to metacognition) is still developing. The synthesis of the existing evidence base revealed the breadth and complexity of the questions facing schools. Clear research gaps exist around the relational dynamics of learning augmented by AI, the medium-to-long term cognitive and metacognitive impacts, and how cognitive offloading might be strategically used to ensure meaningful learning. Implications have been identified for research, for educators, and for institutions, extending beyond teaching and learning to encompass human development more broadly.

The literature review raised questions about how young people think, who they are becoming, how they should act, what they can create, and what it is like to grow in a world increasingly shaped by intelligent technologies. These key themes form the basis of this research program: **Thinking, Becoming, Acting, Building, and Experiencing.**



PORTFOLIO 1 | THINKING

COGNITION, LEARNING & PEDAGOGY | How do we think?

How is AI changing how students think and learn?

This portfolio examines the defining educational question of the AI age: what forms of thinking remain essential for human learning and flourishing? It investigates the relationship between AI and cognition, memory, metacognition, and independent thought, and explores how educational practice can adapt to ensure AI enhances rather than displaces deep learning.

Projects in this portfolio include:

- The place of AI in assessment.
- Discipline-specific AI education.
- Cross-cultural study of AI use in education.

Read the first article from this portfolio on the impact of permitting limited AI use for a Year 10 History assessment, available online.



PORTFOLIO 2 | BECOMING

CREATIVITY, AGENCY & HUMAN FORMATION | Who are we becoming?

What kind of humans are we forming in an AI world?

This portfolio examines the defining human question of the AI age: who are we becoming through our interaction with intelligent technologies? It investigates the relationship between AI and creativity, agency, identity, and human development, and explores how educational practice can nurture the distinctly human qualities that enable young people to learn, create, and contribute meaningfully to the world.

Projects in this portfolio include:

- Creativity and The Arts in the Age of AI.
- God-given human identity and AI.
- Future of education.

Pre-register for a copy of a white paper written by futurist Anders Sörman-Nilsson and the Barker Institute on the future of education.



PORTFOLIO 3 | ACTING

ETHICS, WELLBEING & RESPONSIBLE USE | How should we act?

How do we safeguard & guide young people in an AI-rich world?

This portfolio examines the defining ethical question of the AI age: not simply whether young people can use artificial intelligence, but whether they can use it wisely. It investigates the relationship between AI, integrity, wellbeing, relationships, and ethical decision-making, and explores how educational practice can cultivate discernment, responsibility, and human flourishing.

Projects in this portfolio include:

- Student AI education programs.
- Parent education about student wellbeing and AI.
- Practical considerations for when and how AI use should be declared.

Pre-register for information about the student AI education programs.



PORTFOLIO 4 | BUILDING

AI IN PRACTICE: TOOLS, SYSTEMS & INNOVATION | What can we create or use?

How do we effectively integrate AI into teaching, systems, and disciplines?

This portfolio examines the defining implementation question of the AI age: not simply what artificial intelligence can do, but how it can be used to strengthen education. It investigates the integration of AI into teaching, learning, systems, and disciplinary practice, and explores how innovation can remain purposeful, evidence-informed, and aligned with human flourishing.

Projects in this portfolio include:

- AI as a design partner.
- Teaching and learning frameworks in the age of AI.
- Review of Toddle (an AI-first teaching and learning platform).

Pre-register to receive an article explaining the process of designing a school-wide teaching and learning framework suitable for an AI world.



PORTFOLIO 5 | EXPERIENCING

STUDENT EXPERIENCE, VOICE & THE HUMAN JOURNEY | What is it like?

What is it actually like to grow up with AI?

This portfolio examines the defining experiential question of the AI age: not simply how young people use artificial intelligence, but how they experience growing up in a world shaped by it. It investigates the relationship between AI, learning, wellbeing, relationships, and aspiration, and explores how educational practice can respond to the opportunities and challenges identified through student voice.

Projects in this portfolio include:

- Student reflections on AI.
- Character & Enterprise Education.
- Impact of AI on teacher relationships with students.

Pre-register to receive a copy of a four-year longitudinal study on Year 7-10 students experiencing the arrival of AI.



WHY THIS RESEARCH MATTERS

Generative Artificial intelligence has emerged as one of the most significant developments in education since the widespread adoption of the internet. Within a remarkably short period, AI has become accessible to millions of young people, enabling them to generate text, images, code, explanations, and personalised feedback with unprecedented ease. For schools, the question is no longer whether students will encounter AI, but how educators can respond thoughtfully to its growing presence in learning and everyday life. In education, attention has often centred on academic integrity, assessment redesign, and rapidly advancing technologies. While important, these issues represent only part of a much larger educational challenge.

Education is fundamentally concerned with human development. Schools do more than transmit knowledge. They cultivate thinking, nurture creativity, shape character, and prepare young people to participate meaningfully in society at a time when their own intellectual, social, and personal capacities are still developing. Decisions about AI are therefore fundamentally human decisions. They require careful consideration of what should be enhanced, what should be protected, and what capacities will remain essential in a world increasingly shaped by intelligent technologies. Unlike adults, children and adolescents are forming the habits and dispositions that will influence how they learn, work, create, and relate to others throughout their lives. While AI may create new opportunities for learning, important questions remain about its impact on cognition, creativity, motivation, independence, wellbeing, and human flourishing.

The evidence base is still emerging. Research into the impact of Generative AI on PreK–12 learners has expanded rapidly, yet significant gaps remain in our understanding of its long-term implications. Questions surrounding memory, metacognition, cognitive offloading, relationships, ethical decision-making, and the experience of growing up with AI are only beginning to be explored. Yet, schools are already making decisions about the role of AI in teaching, learning, assessment, and student wellbeing. Without a deeper understanding of AI's impact on developing learners, educational practice may evolve in ways that privilege efficiency and capability while giving less attention to the intellectual, ethical, creative, and relational dimensions of human development.

The Barker Institute has established *AI, Learning and the Developing Person* in response to this challenge this represents. The decisions schools make today will influence how a generation of young people learns, thinks, creates, and relates to others in a world increasingly shaped by AI. Schools need a deeper understanding of how AI affects the development of the whole person. Rather than approaching AI through the lenses of either enthusiasm or fear, the program seeks to provide an evidence-informed understanding of its implications for young people. By aligning research and practice, the program brings together educators, researchers, students, families, and leaders to investigate how AI can enhance learning while preserving the intellectual, ethical, creative, and relational capacities that underpin human flourishing.

Ultimately, the future of education will be shaped not only by what AI can do, but by our understanding of what young people need to learn, who they are becoming, and how they can flourish in a world increasingly influenced by AI. This research program exists to help schools navigate those questions with wisdom, evidence, and hope.

JOIN THE CONVERSATION

Understanding the impact of artificial intelligence on young minds is a challenge that extends beyond any one school or institution. The Barker Institute welcomes opportunities to share ideas, build partnerships, and collaborate with educators, researchers, schools, universities, and organisations interested in this work. Whether you are seeking to learn more about the program, discuss a research idea, or explore opportunities for collaboration, we would welcome the opportunity to connect.

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Acknowledgement

The Barker Institute recognises, with gratitude, the ongoing support of Barker College and external financial contributors who enable this important work.