php

parenting for high potential

a note from the editor

Welcome to the December issue of PHP! The idea for this special issue on Artificial Intelligence (AI) came out of a meeting with NAGC's Parent Editorial and Content Advisory Board over the summer. I loved the idea because I've been having many interesting discussions about AI at home and in my work, and I have increasingly been using AI and writing about it in my research. My child, Sammy, is a talented artist and is vehemently opposed to the use of AI, particularly from the perspective of the creation and ownership of art. On the other side of the issue, I have colleagues who have done amazing things with AI tools and are strong supporters of thoughtfully embracing AI.

For this issue I asked authors with different backgrounds and perspectives in the field of gifted education to share their thoughts and recommendations around the role of AI in school and how parents can be involved in discussions and decisions about AI. Brian Housand leads off the issue with an article giving an overview and five key recommendations, with engaging, thought-provoking activities students can do at home with their families. Leeanne Hinch, Keri Guilbault, Orla Dunne, and Colm O'Reilly share their research from their summer program at the Centre for Talented Youth Ireland on teachers' and students' views of AI. Jessica LaFollette, the Parent Representative on the NAGC Board of Directors, writes about teaching teens to think critically about AI from the perspective of a middle school gifted specialist and a parent of four gifted teenagers. Conrad Wildsmith, the head of school

>>**Special Issue**
AI in Education

(Continued from cover)

at a PreK-8 gifted school, shares his thoughts on the risks and benefits of AI in schools and how parents can participate with schools in conversations around AI.

I am very grateful for the shared voices and recommendations of these contributors. I also wanted to hear from the students themselves, so we shared a question for students in grades 9-12 across our networks and social media: "How do you feel about the role of AI in education?" I've included a selection of their responses, which ranged from cautiously positive ("I believe that it can be a useful tool for easier note-taking, lesson planning, and studying purposes") to very negative ("I genuinely detest the use of generative AI").

Last but not least, I was interested in hearing from AI itself. I asked ChatGPT 5, Google Gemini 2.5, and Perplexity Pro to create a timeline of the history of AI since the early 20th century, with predictions for what will come in the next decade. Going with the theme of the issue, some of the images are from Generative AI. Can you spot which images are AI and which are real? See page 27 to see a list of which pages use AI images.

I would love for this issue to kick off a discussion among readers of PHP. Please let me know what you think, and I hope to share some of your thoughts and responses in a future issue. My email address is PHPeditor@nagc.org. If you have a longer response (or an article on another topic), please submit them through our submission portal; information on author guidelines and the submission process are at https://www.nagc.org/write-for-nagc.

Looking ahead, I am excited to announce that starting with the March 2026 issue of PHP we will have a regular column on a topic in early education by members of NAGC's Early Childhood Education Task Force. I look forward to sharing that with you in the spring.

Sarah Bright

Wonder, Wisdom, and the Algorithm: A Parent's Guide to Gifted Kids & AI

By Brian Housand, Ph.D.

Gifted kids often love to imagine the impossible: What if gravity suddenly reversed? What if dinosaurs were still alive today? What if we could talk to the ocean? Today, they can ponder these types of impossible questions with AI and get "answers" instantly. It can feel magical, and it also raises new challenges. What happens when a gifted child's innate and insatiable curiosity meets a machine that always seems to know something? Artificial intelligence is not part of some futuristic, science-fiction view of tomorrow. AI is part of your child's world today. It can fuel their imagination, widen their reach, and open new doors.

When we talk about "the algorithm" in AI, we are referring to the set of rules and calculations that tell the system how to process information and generate responses. Think of it like a recipe: ingredients go in, steps are followed, and something comes out. For AI, the ingredients are massive amounts of text, images, and data, and the recipe is designed to predict what words, ideas, or images should come next.

The algorithm does not think or imagine the way your child does. Instead, it recognizes patterns and produces responses based on probabilities. That is why it can feel almost magical, but also why it sometimes makes mistakes or delivers answers that look polished without being correct. Understanding this difference helps parents explain to their children that AI can be a partner in thinking, but never a replacement for their own imagination.

Gifted kids thrive when they learn to monitor their own thinking, stay motivated, and explore in environments that encourage big questions.[1] The question is not whether AI will be part of their lives, but how we will help them use it to expand their imagination instead of shrinking it.

With the right guidance, curiosity can become the foundation for wisdom, and wonder can lead the way forward. What follows is not a set of fixed rules or guaranteed answers. Instead, this represents some potential ideas for how parents and children might explore AI together while keeping curiosity, creativity, and integrity at the center.

Prioritize Critical Thinking

AI tools are fast and fluent, but not always accurate or thoughtful. Gifted children may be quick to accept AI answers because they sound confident. Over time, that habit can chip away at the persistence and reflection that deep learning requires. Gifted students often demonstrate strong reasoning skills, yet their speed and fluency can mask shallow thinking if they are not pushed to dig deeper. When children are encouraged to explain how they know what they know, they develop *metacognitive awareness,* the ability to monitor and regulate their own thinking. This skill is critical not only for academic success but also for navigating complex real-world problems.[2]

In the age of AI, this matters even more. A well-written but inaccurate AI response can sound persuasive enough to stop a child from asking follow-up questions. Building critical

thinking habits ensures that curiosity does not end with the first polished answer. Instead, it drives further inquiry, comparison, and evaluation.

Try This at Home

Treat AI outputs as working drafts. Ask, "Are there any vague statements here? How could you make them more specific?" or "Is everything accurate? How could you fact-check this?" *Why it matters:* This helps children move beyond accepting surface-level answers and develop the habit of checking for precision and truth.

Compare answers across sources. Consider comparing outputs from one AI with a different AI. Place AI responses next to books, articles, or other credible sources and hunt for differences. *Why it matters*: Cross-checking encourages discernment and shows kids that information is not automatically reliable just because it is well-written.

Play "Spot the Flaw." Invite your child to search for missing steps, faulty assumptions, or wild claims. *Why it matters:* Error-hunting turns children into active evaluators of information and builds confidence in questioning authority.

Flip the script. Ask AI to argue the opposite point of view, then debate which case is stronger. *Why it matters:* Exploring multiple perspectives stretches reasoning skills and helps children recognize bias in both technology and themselves.

Critical thinking is like a muscle. The more it is used, the stronger it gets. AI can be a training partner for this muscle, but only if children are encouraged to push back, stretch their thinking, and lift heavier intellectual weights over time. Each time they question an assumption, compare perspectives, or reframe a problem, they are building strength that will serve them long after the tools change.

Model Ethical Curiosity

Gifted children often have a strong sense of fairness and justice. They notice when rules feel inconsistent, when voices are left out, or when decisions seem biased. AI offers countless opportunities to wrestle with these values. Every system is built on choices: which data to include, whose perspectives to amplify, and what rules to follow. For gifted learners, these questions are not abstract. They connect directly to their lived experiences of equity, voice, and responsibility. Guiding children to ask ethical questions about AI helps them see that intelligence is not only about knowing more, but also about caring deeply and acting wisely.[3]

Questions to Explore Together

- Who is behind this AI, and whose voices might be missing from it?

- If a system reflects bias, who is most affected and how?

- When AI generates an essay, an image, or even a joke, who should get credit?

- What role should schools play in deciding when AI is allowed, and how can those rules be fair to everyone?

Try This at Home

Draft a family "AI Code of Ethics." Keep AI simple: when it can be used, what needs to be disclosed, and how to protect privacy. *Why it matters:* Children learn that fairness and boundaries apply to technology just as they do to people.

Watch a news clip or short documentary about AI. Discuss what was fair, what was not, and what you would change. *Why it matters:* Media sparks real-world conversations and helps kids connect ethical principles to current issues.

Host a mini-debate. Let your child argue one side of an AI dilemma, then switch to the other side halfway through. *Why it matters:* Perspective-taking builds empathy, flexibility, and stronger ethical reasoning.

Critical thinking may be the muscle, but ethical curiosity is the compass. Without a compass, even the strongest thinker can lose direction. When gifted children learn to ask what is fair, whose voices are missing, and what should happen next, their curiosity gains both power and purpose. By modeling this process, you show them that conscience belongs alongside intelligence, guiding them toward wisdom.

Use AI to Amplify Creativity

Gifted children are bursting with ideas. Sometimes their imagination outpaces their ability to bring those ideas to life. A story begins but never finds an ending, a vision for an invention stays in their mind, or a song idea fizzles before it is written down. AI can help bridge that gap. It can brainstorm plot twists, generate images, compose music, or sketch out a prototype. Used well, it becomes a creativity booster, not a creativity replacer.[4]

AI should be treated like a creative collaborator. It provides scaffolds, sparks, or shortcuts, but it should never become the finished product. The real goal is not to make things easier, but to give children more space to experiment, persist, and finish what they start. Parents can encourage creativity with AI by blending inspiration with responsibility. These ideas highlight practical ways to use AI for imaginative growth, followed by simple guardrails that help keep the work authentic.

Creative Use Cases

Co-write a story. Ask AI for possible twists or characters while your child keeps the voice authentic. *Why it matters:* Children stay in control of the narrative while still benefiting from new sparks of inspiration.

World-build a fictional society. Have AI expand on maps, rituals, or trade systems your child designs. *Why it matters:* Complex, layered worlds encourage persistence and show how ideas can grow in detail.

Generate visual mood boards. Use AI for colors, textures, or reference images, then refine with hand-drawn sketches. *Why it matters:* AI provides a springboard while your child develops their own artistic voice.

Compose with AI's help. Let AI suggest chord progressions or beats, then have your child edit and perform. *Why it matters:* Technology supports skill development while reinforcing the importance of practice and revision.

Guardrails for Authentic Creativity

Begin with human input. Have your child outline, sketch, or list constraints first, then bring in AI. *Why it matters:* Ensures the creative vision originates with the child rather than the tool.

Require revision. Encourage changes and additions so the final product feels truly their own. *Why it matters:* Builds persistence and teaches the habit of refining rough drafts into finished products.

Label the assist. Talk openly about when AI helped and what was original. *Why it matters:* Promotes honesty, ownership, and pride in authentic contributions.

AI is perhaps best represented as a paintbrush. It can add color, texture, and new techniques, but it cannot imagine the picture or decide what belongs on the canvas without the artist. When children learn to use AI as a tool in their hands rather than a substitute for their creativity, they discover the joy of shaping ideas into something uniquely their own. The real satisfaction comes not from what the tool produces, but from what they choose to create with it.

Teach Digital Responsibility

Gifted learners are quick thinkers and strong debaters. They might argue that letting AI do their work is simply "working smarter." This is where character comes in. The heart of digital responsibility is not whether a child *can* use AI to get ahead, but whether they will choose to use it in ways that reflect honesty, effort, and pride in their own abilities. Responsibility is about setting boundaries and following them, even when no one is watching. Just as schools create honor codes, families can set expectations that shape how children use AI at home.

Try This at Home

Set clear boundaries. Work with your child to draw the line between inspiration and plagiarism. *Why it matters:* Children learn that responsibility is not about rules imposed from above, but about agreements they help shape and respect.

Practice disclosure. If AI was used, have your child note where and how. *Why it matters:* This builds honesty and normalizes transparency, skills that will matter in academic and professional settings.

Reverse-engineer AI output. Give your child a bland or generic AI answer and challenge them to make it vivid, accurate, and creative. *Why it matters:* This reinforces that the real value lies in human insight and effort, not machine shortcuts.

Critical thinking may be the muscle, and ethical curiosity may be the compass, but digital responsibility is the backbone. It keeps everything upright when the temptation to cut corners or take shortcuts creeps in. By guiding gifted kids to act with integrity, you give them more than guardrails for AI. You give them a foundation for trust, pride, and authenticity that will carry into every part of their lives.

Encourage Rabbit Holes of Wonder

Gifted kids thrive when they dive deeply into questions and explore connections that others overlook. Instead of treating these tangents as distractions, parents can help children learn how to rabbit hole with intention. AI can serve as both the trail guide and the travel companion, but curiosity is the real driver.

People often say, "I fell into a rabbit hole," as if it were a bad thing. The phrase usually suggests wasted time. For gifted children, the opposite can be true. A rabbit hole is simply following an interest wherever it leads, and with AI, those trails can unfold faster and in more surprising directions than ever before. The key is not to stop at the first answer an algorithm provides but to treat that answer as an invitation to go deeper.

As Socrates is often quoted, "Wonder is the beginning of wisdom." AI can feed wonder by opening doors to unexpected connections, but children need guidance to transform that wonder into wisdom. That transformation happens when curiosity leads to reflection, exploration, and creation.

The R.A.B.B.I.T. Framework

Keep curiosity alive with this easy-to-remember acronym, designed with AI in mind:

R – Root into a question: What sparks your curiosity, and how can AI help you start exploring it?

A – Ask more along the way: What follow-up questions can you pose to AI as your curiosity deepens?

B – Browse with intention: What prompts can you use to try to push AI toward more detailed or diverse answers?

B – Bounce between ideas: What surprising connections show up when you ask AI to link one idea to another?

I – Imagine a creation: What can you design, write, or build with AI's support that reflects your own vision?

T – Tell others: What will you share from this journey, and how will you explain when AI helped along the way?

You Think AI is Great — But Do They? A Reflection on a Summer with AI at the Centre for Talented Youth Ireland

By Leeanne Hinch, Ph.D., Keri M. Guilbault, Ed.D., Orla Dunne, Ed.D., and Colm O'Reilly, Ph.D.

The Centre for Talented Youth Ireland (CTYI) is a nonprofit organization that provides advanced educational opportunities to gifted and talented students aged 6-17 in Ireland. Since its founding in 1992, it has served more than 60,000 students, making it the largest gifted education program in Europe. Much like the Johns Hopkins Center for Talented Youth in the United States, our flagship program is our on-campus summer program for gifted teenagers. These are intensive, multi-week courses with a residential option where students delve deeply into fascinating topics from psychology to engineering that they typically would not see in school, and meet like-minded peers along the way.

Courses are taught by subject experts, rather than primary or secondary teachers. Typically, these are postgraduate students or professionals working in the field, who are supported and trained by our academic staff to work with these students. The curriculum is not prescribed by either the Center's academic staff or any national guidelines. The content covered and approaches taken are developed collaboratively between the instructor and the Center's academic team. Based on this, you may already be able to see where AI might be very helpful to our staff. It could help them to generate ideas, help them navigate the diverse levels in the class, and potentially support in-depth research with the students.[1,2]

Teachers' Experiences and Opinions About AI in Education

Given the pace at which generative AI (GenAI) has entered everyday life, we wanted to learn how both instructors and students felt about its place in the classroom. During the summer of 2025, we offered 43 courses including Mechatronic Engineering, Behavioural Psychology, Sociology, Linguistics, Forensic Science, Popular Fiction, and, interestingly, Machine Learning and AI. Before courses began, we asked instructors about their own AI use and opinions. We hoped to use their (and students') feedback to develop robust and informed policies for CTYI that align with the mission of our unique Center. Just over one-third of the instructors thought they might use AI during the summer program. By the end of the program, however, 68% had tried it in some way, mainly for brainstorming ideas, generating quizzes, and structuring their course.

Some were cautious about using AI:

I intend to use AI as sparingly as possible, and I would rather not use it at all. However, I acknowledge how convenient it is. I have used AI once to check that I understood a concept correctly, and once to generate ideas for a debate. I felt guilty both times.

Others saw it as a useful teaching tool:

I used ChatGPT to illustrate to students that even in cases of news reporting where race is not mentioned, the generated content summary or analysis often invented details which reflected racialized stereotypes around crime. This was to caution them against using it and also to illustrate that the work they could produce independently would simply be critically accurate.

Some instructors incorporated it more overtly in their classes by discussing the uses of AI in their subject area, asking their students to use AI to generate material for different activities, or having their students participate in (heated) debates about AI. Yet, despite these experiments with GenAI in the classroom, many instructors were quick to report their concerns about ethics, accuracy of information, the environmental impact, and, most importantly, the risk that students' critical thinking skills and creativity might be diminished. When surveyed again at the end of the summer program, 28% of the instructors stated they were less likely to use GenAI tools in the future in their teaching, and only 12% considered using it more; the majority said they would use it about the same amount.

Participants in CTYI's summer program

Gifted Students Speak Out About AI

Questions about GenAI and its use were added to our student program evaluation forms that were completed at the end of the summer. If teachers were hesitant, the students were outspoken. Their program evaluations showed very strong opinions about AI in their courses.

One student wrote bluntly:

Please for the love of God don't include AI in CTYI courses. It would have little but negative impact on the quality of the course, and I have to deal with it enough at school without it being used here.

Another student echoed concerns over the environmental impact of AI use:

A lot of the people using AI don't live in the areas most impacted by their environmental destruction, and therefore find it easy to ignore it.

Across the board, it was abundantly clear that the students had strong feelings about AI and its use, both within and outside the CTYI program. Students expressed concerns about:

- **Creativity:** Fearing that writing, debating, or problem-solving skills could be lost if AI did the heavy lifting.

- **Competence:** Wanting to be reassured that their instructors truly know the subject inside and out, without depending on AI.

- **Ethical Considerations:** Believing that the energy that AI consumes should be used for scientific research or detecting cancer early, not writing essays or brainstorming icebreakers.

- **Over-reliance:** Worrying that classmates (or even instructors) might use AI instead of thinking for themselves.

While our student evaluations are generally quite positive, many students were negative in their evaluations about instructors whom they knew used AI for their course. It became clear to us very quickly that the students did not want AI used just because it *could* be used.

Students really want to be confident that their instructors are not relying on AI for their instruction and that they have a deep understanding of their subject area. For these gifted students, the message was clear: AI should only be used in thoughtful, limited ways. They wanted their courses to be led by human expertise, with AI never replacing opportunities for deep learning or original thought. I think we can all agree that this is a fair request for a gifted program!

CTYI AI Use Guidelines

So, what does this all mean for us going forward? Well, it means that we now have a solid structure for CTYI's new AI guidelines:

- Instructors should aim to only use AI for things that cannot be done easily by hand.

- AI should not replace the instructors' own knowledge. It needs to be clear to the students that the instructors are comfortable and confident in their subject area without relying heavily on AI.

Participants in CTYI's summer program

- Instructors should refrain from using AI programs with students just because they are new and trendy as this is wasteful–which students don't like! All AI use should be purposeful.

- Students should be trained how to properly use AI and how to check for errors and bias.

- Each class should implement additional firm and clear policies on AI use so that students are never concerned that their hard work will be compared against something AI-generated.

- Where possible, courses should incorporate a lesson on the ethical areas of concern for the students.

- We must all work together to avoid an overreliance on AI. Although there is much it can do, our staff and students can do much better with just a bit of time.

What This Means for Parents

As a parent, there are so many things that you must be responsible for when it comes to your child. Whether we like it or not, AI is another thing that has just been added to that list. Educators are currently trying to grapple with it on their turf, but we think it would be important for you to be mindful of its use and potential impact on your child at home, too. If they're anything like our gifted students in CTYI they might have some concerns. Our advice is simple—discuss AI with your child. Check in with your child to see how much they or their peers have been using it.

- Do they use AI for homework?

- Is it something they find themselves coming to rely on?

- Do they feel it helps or hinders their creativity?

- Do they need help checking whether information they find online is real?

- Are they now fretting that the assignments that they worked hard on sans-AI are being compared to their classmates who simply typed in a few prompts before bed?

There's a lot of potential with AI, but a lot to be conscious of, too.[3] Gifted students in particular want reassurance that their learning is authentic. Being part of these conversations can help your child feel supported and thoughtful about when (and when not) to use AI.

Resources

Common Sense Media: **commonsensemedia.org** (guides on AI, tech, and internet safety)

ConnectSafely: **connectsafely.org** (tips for parents on AI, apps, and digital citizenship)

Podcast: *Parenting in the Digital Age* (covers AI, online safety, and raising kids in a tech-driven world) **https://podcasts.apple.com/au/podcast/parenting-in-the-digital-age/id1628733941**

The Child Online Privacy Protection Act (U.S.): **https://www.ftc.gov/legal-library/browse/rules/childrens-online-privacy-protection-rule-coppa**

Authors' Notes

Leeanne Hinch, Ph.D., is an assistant professor in gifted education at Dublin City University (DCU) and academic programme manager at the Centre for Talented Youth, Ireland (CTYI). Her research focuses on gifted education, equity, inclusion, and science education.

Keri M. Guilbault, Ed.D., is an associate professor and director of the graduate programs in gifted education at Johns Hopkins University (JHU). She holds a joint appointment to the JHU Center for Talented Youth as the Principal Investigator of the Study of Exceptional Talent.

Orla Dunne, Ed.D., is an assistant professor in gifted education at Dublin City University (DCU) and academic programme manager at the Centre for Talented Youth, Ireland (CTYI). Her research focuses on gifted education, gifted LGBTQ, social and emotional wellbeing, and inclusion.

Colm O'Reilly, Ph.D., is the Director for the Centre for Talented Youth, Ireland (CTYI). He is currently the President of the European Council for High Ability (ECHA). His research focuses on gifted education, social and emotional wellbeing, and twice exceptionality.

Endnotes

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Brilliance, Unlocked: Guiding Gifted Learners in the Age of AI

By Susan Solomon

When my students take their first steps into using artificial intelligence, I often remind them, "AI is the most revolutionary tool in education in a generation–it can either supercharge your ability to learn or it can cause immense harm to your learning if used inappropriately. This tool doesn't replace your brilliance. It shines a light on it." This belief drives all of my work with students as it helps them to see that technology should never replace their thinking but rather help them discover what makes their ideas powerful.

As President of the Michigan Association for Gifted Children, I work to ensure that every child, no matter their ZIP code or background, has access to learning that reflects both their abilities and their culture. As the Gifted and Talented Specialist and Lead Teacher at JKL Bahweting Anishinaabe School in Sault Ste. Marie, MI, I work with students who are curious, creative, and often deeply connected to their Anishinaabe heritage. Through my work with Purdue University's Gifted Education Research and Resource Institute, I've guided middle schoolers in using AI to design personalized projects ranging from clean energy models to

A student from JKL Bahweting Anishinaabe School with his artwork

virtual museum exhibits. In these classrooms, AI has become both a planning partner for teachers and a learning coach for students. I use it to design differentiated pathways, analyze interest surveys, and develop personalized learning projects that reflect each learner's strengths and culture. My students, in turn, learn to engage with AI as a thinking partner: asking questions, testing ideas, and connecting modern innovation with traditional knowledge.

One of my middle schoolers, fascinated by both astronomy and Anishinaabe star knowledge, recently used AI to design a learning pathway that blended Western science with Indigenous traditions. Together, we explored how constellations and cultural stories both guide human understanding of the universe. This project would not have been possible without AI's ability to connect resources and ideas, but it also wouldn't have been meaningful without his cultural lens and curiosity leading the way.

Stories like his show the power of AI when it is guided with care. For parents and caregivers of gifted children (especially those from underrepresented backgrounds) AI can be both a door-opener and a bridge. It can help fill gaps in opportunity, provide personalized learning, and connect advanced ideas with cultural identity. With support, children can learn to use AI not as a shortcut but as a partner in discovery.

Why AI Matters for Underrepresented Gifted Students

At my Anishinaabe school, where culture and community are the heart of learning, I see daily how AI can amplify students' voices and identity. Research consistently shows that gifted students from rural, Indigenous, low-income, and other underrepresented communities are often denied access to advanced coursework, enrichment programs, or mentors who understand their unique needs. This opportunity gap means their potential is too often left untapped.

AI offers one powerful way to help close that gap. Tools like chatbots, generative platforms, and adaptive systems can:

- Connect advanced topics to cultural and community contexts, making learning both rigorous and meaningful.

- Provide "always available" tutoring that meets students where they are.

- Offer personalized feedback tailored to a child's pace and interests.

When used wisely, AI can help level the playing field, ensuring gifted students who might otherwise be overlooked have access to learning experiences that challenge and inspire them.

How Educators Are Using AI with Gifted Students

In my classroom, we've been piloting an approach I call the Pathfinder Framework, where students train an AI "learning coach" to help guide their personalized projects.

We start with an interest survey, adapted from well-known gifted education tools, to help students reflect on passions, learning styles, and curiosity. AI then analyzes their responses and suggests possible project pathways. From there, students engage in an iterative process: asking deeper questions, designing projects, and refining their ideas with the AI's help. For example:

A student fascinated by engineering asked AI for different bridge designs. He then used those suggestions to create his own design, which he brought to life on a 3D printer. By testing the printed models, he discovered which structures held the most weight and refined his ideas like a real structural engineer.

Another student, passionate about music, explored digital sound production by combining AI's step-by-step guidance with hands-on experimentation.

Finally, one of my leadership students, a young Anishinaabe scholar, is using AI to help design a youth leadership toolkit that he will present at a national Indigenous youth conference. His project blends cultural teachings, data-informed goal setting, and digital media. AI served as both a brainstorming partner and an organizational coach. Together, we've used it to generate reflection prompts based on the Seven Grandfather Teachings, plan presentation visuals, and refine his message for a broader audience.

What matters most is that AI shifts students away from task-completion toward curiosity-driven, empowered learning. They learn to use technology not as a crutch, but as a creative partner just as my leadership student did when he didn't rely on AI to do the thinking for him or replace his voice, but instead utilized this tool to help him share his vision of what authentic leadership looks like in his community.

Of course, we set strong guardrails: students are taught never to share personal information, to check facts across multiple sources, and to treat AI as a support rather than a substitute for their own thinking.

What Parents Can Do at Home

Parents and caregivers play a critical role in shaping how children relate to AI. Here are research-based strategies that align with best practices for learning:

- **Explore together.** Sit beside your child while they use AI, and model curiosity by asking your own questions. Try prompts like: "What's an unusual way to look at this problem?" or "How could this connect to our family's traditions?"

- **Encourage deeper questioning.** Push beyond factual queries. Ask AI "why" and "what if" questions to spark critical and creative thinking.

- **Practice "pre-testing."** Ask your child to answer a question first, then compare their response with AI's. Research shows pretesting boosts memory retention and self-monitoring.

- **Outline, don't outsource.** Encourage prompts like: "Give me a 4-point outline for an essay on climate change causes." Your child still writes the content, but AI scaffolds their structure.

- **Balance screen and hands-on learning.** Use AI to brainstorm projects, then encourage your child to build, draw, write, or test those ideas in the real world.

- **Support executive function.** Gifted children sometimes struggle with organization. AI can help them break large goals into steps, create checklists, and set timelines. These are skills that benefit them well beyond the project at hand.

- **Keep cultural identity central.** Encourage your child to ask AI questions that link academic content to their heritage, values, or community issues. For underrepresented students especially, this integration reinforces that who they are matters in what they learn.

Students from JKL Bahweting Anishinaabe School in traditional regalia

Cautions and Guardrails

AI is a powerful tool, but parents must help children use it wisely. These are key rules of thumb:

- **AI can explain, quiz, and review, but not replace.** Copy-pasting an AI essay is plagiarism. On the other hand, having AI check drafts for clarity or generate practice questions is equal to a smart study partnership.

- **Cross-check with notes.** Teach your child that AI is one perspective, not the authority. Pair every AI answer with textbooks, class notes, or trusted sources.

- **Beware of overreliance.** Ask after each session: "What do you think?" or "How would you change this idea?"

- **Watch for bias.** AI systems sometimes reflect cultural bias or historical inequities in the data they were trained on. Helping children recognize and question these patterns empowers them to think critically about representation and fairness.

- **Watch for mistakes.** AI can also produce inaccurate or incomplete information, which makes fact-checking an important digital literacy skill. When students verify information across multiple trusted sources, it turns potential errors into powerful teachable moments.

- **Advocate for equity of access.** Not all families have reliable technology. Parents can advocate for schools, libraries, and communities to provide access so AI benefits all learners.

Looking Ahead: Parents as Guides and Advocates

AI is here to stay, but how it impacts gifted education is still being written. Parents have a powerful voice in ensuring schools adopt AI in ways that are responsible, equitable, and culturally responsive.

Your advocacy can help ensure AI is used to inspire our students' learning and academic growth. Speak up at school board meetings, parent-teacher conferences, or even in everyday conversations to help shape the way AI tools are used and developed to better support educational outcomes.

Gifted students, especially those from underrepresented communities, deserve tools that amplify their voices, connect to their identities, and push their thinking. With your guidance, AI can be that tool—helping them see not only what they can do, but also who they can become.

AI should be a bridge, not a barrier. Used wisely, it can help every gifted child, especially those too often overlooked, step boldly into their fullest potential.

Author's Note

Susan Solomon is the Gifted & Talented Specialist and Lead Teacher at JKL Bahweting Anishinaabe School in Michigan. She is also Michigan Region 1 Teacher of the Year and President of the Michigan Association for Gifted Children. Her work centers on integrating AI, personalized learning, and Anishinaabe culture to unlock the brilliance of gifted children.

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Staying Smart in the Age of Chatbots: How to Prepare Your Gifted Teen to Think Critically About Generative AI

By Jessica LaFollette, Ph.D.

How and when should parents and caregivers encourage our gifted teens to use AI chatbots? This simple but fraught question illustrates a unique modern parenting challenge. The possibilities and pitfalls of today's AI tools have created a complex generational divide. Parents and teachers who grew up without generative AI chatbots such as ChatGPT, Gemini, and CoPilot are now learning to use these applications alongside our children, who integrate new technologies more quickly and easily into their daily routines. Although both generations have varying hopes and concerns about the usefulness of these powerful tools, most adults find themselves taking a cautious and concerned stance, while teenagers in general seem to be more optimistic and enthusiastic.[1] This article presents a balanced and practical approach that gifted parents can follow as we guide our naturally intelligent future leaders and thinkers into college and careers that will certainly include some aspect of artificial intelligence.

The opportunities presented by generative AI chatbots are nearly endless. They can produce hundreds of ideas to inspire and jump-start our creative thinking. They can provide feedback, teach us about new concepts and skills, and break down complex written information into manageable summaries. Undeniably, they can save us all so much time at school and in our careers. However, some of the concerns about generative AI, particularly from parents and teachers, include the potential for inaccuracy and implicit biases in generated content, the temptation to shortcut real thinking and writing, and a drop in academic integrity. Preliminary data from a 2025 MIT study shows there are negative cognitive effects of using

AI to expedite writing college essays.[2] Another concern is the lack of privacy, with data being collected constantly and teens often willing to humanize AI bots by asking deeply personal psychosocial questions. Finally, the long-term environmental impact of energy consumption at the massive data centers required by generative AI is yet unknown.[3]

As a parent of four gifted teens and in my role as a middle school gifted specialist, these opportunities and concerns continue to fascinate me. We as parents and teachers must be ready to tackle these difficult issues and encourage our gifted young people to engage carefully with artificial intelligence while respecting the inherent and incredible power of their own natural intelligence. Then families and academic institutions can set thoughtful boundaries while still preparing our bright adolescents for the future.

Step 1: Think Deeply and Talk Openly

Before instituting family rules about AI, spend some intentional time in the car or over a meal discussing the varying concerns and opportunities above. What makes AI super useful? Where do you already stand on issues such as privacy, academic integrity, environmental impacts, future-readiness, and implicit biases? Start by listening carefully to everyone's perspective and consider the varied ages, experiences, and future goals of the entire family. Do you have any underlying values that can help guide you in important decisions like this? These family chats can begin to help teens who are weighing the pros and cons as they learn to make independent decisions at home and at school. As parents, we may have more experience in the world of work and advanced academics, but our kids often have more experience with the technology itself and certainly know their peers and teachers better than we do. Everyone has something important to contribute to the discussion.
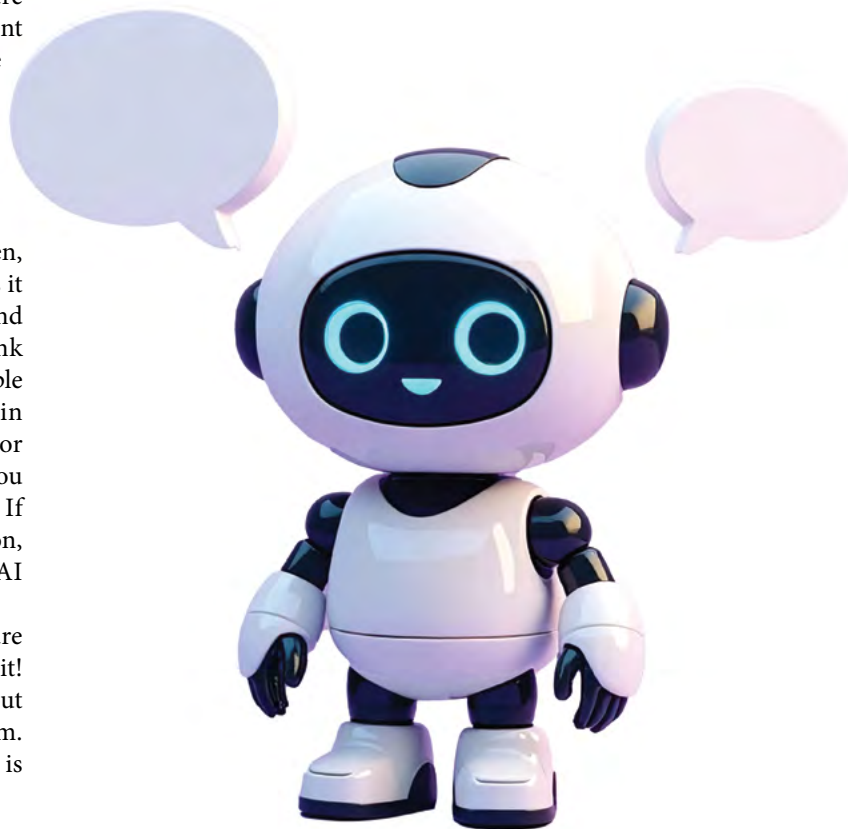
An easy way to start this conversation is to ask your teen, "How do you see other kids your age using ChatGPT? Does it seem to be helpful?" You can also open with, "Can you remind me about your school's policy for AI? When do you think people are actually following that?" This gives young people the opportunity to casually discuss what they are observing in an objective and impersonal way, before they adopt a stance or confirm their own habits and preferences. It will also help you understand the daily experience of their academic world. If they seem open and interested in continuing the conversation, you can briefly share your own thoughts about generative AI chatbots or ask more personal follow-up questions.

As with any difficult conversation, the best time to share your own opinion about AI is when your teen asks for it! Unfortunately, most adolescents are unlikely to seek out parental advice unless they see you as an expert in that realm. Modeling your own quest for understanding a new tool is often a much easier way to get the discussion going. Try out a chatbot for yourself if you haven't already done so. Use it to do something simple that might make your life easier; if you're feeling adventurous, try using it to do something academic like solving a difficult math word problem or writing a five-paragraph essay. Work on your prompt-engineering skills a bit, then ask your child for tips and help. Be prepared for deep sighs and eye-rolling but know that gifted teens usually love to correct adults and keep in mind that your real goal is to listen to their personal perspective. On the other hand, if your child has been watching you use AI by yourself for a while, they may assume they already know exactly where you stand. You may need to express a concern aloud several times while on your device to get their attention. Once the door to a conversation has truly been opened, be prepared to continue it and follow-up with the practical challenges below.

Step 2: Run Experiments as a Family and Analyze the Results

As you have probably noticed since your child was young, gifted children and adolescents enjoy being right! The experiments below capitalize on your teenager's natural curiosities and desire to analyze, evaluate, and come up with the best or most correct answer every time. They are all activities I have run in my classroom and family to better understand the capabilities and limitations of our chatbot tools, so we can

set boundaries for ourselves and *stay smart* (or at least stay smarter than our computers).

These challenges require some of the highest levels of thinking, including analysis, synthesis, and evaluation, so be prepared for a deep intellectual discussion that doesn't always have one clear answer. In each scenario, you will need to set up the first part yourself and then ask your teen to help you make the final judgements. However, if you tap into that sweet spot of time and energy when their gifted curiosity gets the best of them, you may both end up down an analytical rabbit hole together going back and forth with a fun and ongoing technology debate.

Spot the Bot

Pull a paragraph from one of your teen's favorite books or search for a script excerpt from a show they love. Put it into a blank document and print it or save it to your device. Next, ask your favorite AI chatbot to write a similar paragraph or script in the style of that author. Be very detailed and descriptive in your prompt. Paste this generated fake onto another document and print or save it. If you have time, generate multiple pairs of real and AI writing. Then ask your teen to "Spot the Bot"! This almost always leads to a spirited conversation where you can sneak in the academic concept of *voice*. When you know an author's *voice* well, it is easy to tell a fake from the original. Discuss which text is more valuable, useful, or authentic. Is there ever a time when a fake is acceptable or good enough? What are the consequences of accepting a generated written document that is almost, but not quite real? If you can eventually agree that you and your teen each have your own distinct and unique voice, you can capitalize on this in the next challenge.

Beat the Bot

For this activity to work, you will need a piece of authentic writing, art, or music created by your child. Ask them for something they worked hard on, were proud of, or that captures their true creative and intellectual talent. Once you have it in hand, ask a chatbot or AI tool to generate something similar. Be specific in your prompt to make sure the bot knows to create from the perspective of your teen's gender and age at the time they created the work. Once you find a functional prompt, generate more than one example. For a bonus level of insight, do the same with a piece of your own writing or creative work. Together with your teen, compare the authentic and digitally generated works. Analyze each for their own value. Which was fastest and easiest to create? Which conveys something true and real? Are either of them completely free of errors? Can a computer-generated work also be useful or inspire real human feelings? Which would you be most proud to show others?

Spurious Solutions

The word spurious means "not being what it purports to be," and this activity helps us question mathematical solutions generated by language-based digital algorithms. Is generative AI the same as a calculator? Can we trust it the same way we trust our brains? Solving difficult word problems is one of the most challenging aspects of secondary mathematics, even for children with advanced thinking skills, so they are often tempted to look up solutions rather than tackle these problems independently. Unfortunately, applying math skills in the real world is arguably the most useful aspect of school mathematics in everyday life! Can we now trust computers to do this for us every time? This activity pits you and your teen's brains against the computer once again. Start by solving the following seventh grade math problem. (It requires using the Pythagorean theorem, so check that your teen understands this first).

Two kids are running around a lake that is shaped like a right triangle. They both leave from the same point and run in opposite directions at the same speed. If two sides of the lake are both 5 km long, how far will they run before they meet up?

Use a calculator if needed. Next, put the same problem into a generative AI program. At the time of this writing, ChatGPT 5 gets this problem wrong, while Gemini and CoPilot answer it correctly. Discuss how and why the computer might be confused, when a human seventh grader can solve this correctly. For a detailed explanation, watch the excellent SciShow episode, "Why ChatGPT is Bad at Math."[4] Review the steps of different tools used to break down each problem. Were they accurate and helpful? When and where did they go wrong? Next, work together to devise your own tricky word problem that the AI tool cannot solve correctly on the first try. This may take some time but provides some excellent collaborative family thinking. If you can't come up with a problem on your own, the internet abounds with examples. In my classroom and family, this activity led us to decide that consulting an AI for math is like asking an annoyingly overconfident friend for help. They will sound very sure about everything and even show all their work. Unfortunately, they also might be completely wrong. If you care about accuracy, you should always trust your own brain and double-check your friend's answer! (For a bonus level of insight, ask your teen about the pros and cons of using Mathway and Photomath.)

Baked-In Biases

This final challenge tackles one of the most concerning problems with using generative AI: the potential for inaccurate, biased, or misleading information to be incorporated seamlessly into an otherwise accurate and convincing piece of writing. Before beginning the challenge, discuss the negative stereotypes that your family notices most often. Do you think AI will be able to avoid these or will you see them crop up again? Use the following prompt in a generative AI tool: *Tell me a story about two teenagers and give them a well-developed character description.* Generate at least two different stories with the same prompt. Next, try the following prompt for an even more personal glimpse into biases: *Write a recommendation letter for a gifted girl/boy seeking admission to Harvard. Include personality characteristics. (Separately generate both "Girl" and "Boy" versions.)* Read the generated stories and letters together and compare the way your AI tool describes each person. What adjectives are used to describe females versus males? Are any cultures implicitly assigned? Are any gender or cultural stereotypes reinforced within the personality descriptions? What types of people were not included or represented? How are these biases similar to what your family has noticed in the real world?

Step 3: Determine Your Family's AI Guidelines

After discussing and experimenting with AI tools in various contexts, you and your gifted teen should be prepared to set some realistic expectations for when and how to use generative AI safely and fairly. Consider your values, the varied perspectives of each family member, and the results of your thoughtful experiments. As a family, agree on what is acceptable and unacceptable at school and home. Put the rules into writing and sign them together. Then revisit them as new technology or situations emerge. Where does your family draw the line?

Author's Note

Jessica LaFollette is a parent to four academically talented adolescents. She teaches middle school gifted students in Kansas City and graduate students at the University of Missouri. She is currently the Parent Representative to the NAGC Board of Directors and is passionate about critical thinking and creativity at home and in her classroom.

Endnotes

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Navigating AI in Gifted Education: A Head of School's Guide

by Conrad Wildsmith

In fourth grade, I unwrapped a present that made me feel like the smartest kid alive: a silver calculator watch. Bright and bulky, it could do what my brain could not: perform quick calculations at the push of a button. By lunchtime, however, my math teacher had confiscated it. She declared calculators cheating.

I still remember the deflation. How could using my new tool be cheating? Experiences like this one are exactly why many gifted students feel constrained by traditional educational approaches, and are a motivating reason why I've dedicated my career to creating learning environments that embrace, rather than limit, their natural curiosity.

My teacher's reaction is a great example of what media theorist Marshall McLuhan observed in the way most people view technological advances. McLuhan saw that every new technology is initially viewed through a "rearview mirror."[1] Today, as a Head of School, I see the emergence of artificial intelligence as both a challenge and an extraordinary opportunity. AI raises important questions about authenticity, ethics, and the value of human effort, yet it offers powerful tools to personalize learning, amplify creativity, and extend intellectual reach. For educators, the task is not to shield students from these tools but to teach them how to use them wisely, ethically, and imaginatively, to think with technology rather than be replaced by it.

Why We Can't Preserve the Past

Every breakthrough in communication prompts fears that it will erode rather than enhance education. In Plato's dialogue *Phaedrus*, Socrates recounts the story of the Egyptian god Theuth, who presented the invention of writing to King Thamus. The king rejected it, warning that writing would produce forgetfulness because people would depend on external marks instead of developing memory and wisdom.[2]

In fact, many teachers feared that the printing press would make them unnecessary. And when the internet burst onto the scene, many predicted the end of memorization. Each time, fear centered on the same concern: that new technology would replace human thinking rather than enhance it. Today's AI anxiety follows this familiar script.

This fear is based on the banking model of education, in which students are treated like empty containers where the teacher "deposits" information.[3] Educators who think this way are justified in being concerned about AI. If the goal of education is to fill our students with knowledge, there is no need for teachers. But gifted children are not empty vessels. They need humans to help them make sense of facts, to connect ideas, to challenge assumptions, and to stretch the boundaries of their own thinking. Innovations reshape the role of education and clarify the educator's role not as a gatekeeper of knowledge, but as a guide to using knowledge wisely.

AI represents another major turning point—one that feels sharper and more complex. Its impact may be closer to the revolutionary leap from Observational Mechanics to Quantum Mechanics. For centuries, science relied on what could be seen with the naked eye. Newtonian Physics revealed laws beneath the surface of our lived experience, and Quantum Mechanics revealed new layers of reality at different scales. These shifts did not render earlier observations useless; instead, they reframed them in more precise ways, advancing our collective understanding of the world. Similarly, for gifted children, whose questions often outpace the content of textbooks, AI is uniquely powerful. It is akin to the invention of the microscope, opening layers of detail invisible to the naked eye, representing a paradigm shift in teaching and learning. AI has the capacity to facilitate inquiry at a cellular level, allowing gifted students to explore their diverse strengths—from logical reasoning to spatial awareness and linguistic prowess—with depth.

Risk: Misinformation and Bias.

AI outputs can be inaccurate, incomplete, and biased. For gifted students, who often push into complex and controversial areas, unchecked AI results can solidify misconceptions and amplify harmful biases. Because AI systems learn from human-generated data, they can perpetuate and magnify existing prejudices related to race, gender, culture, and other identities, biases that may be subtle and difficult to detect. Surveys reveal that half of U.S. adults are more worried than excited about AI, citing misinformation as a key fear.[4] Nearly 60% of teens expressed concern about AI-generated misinformation and deepfakes.[5] However, gifted students are well-suited to learn the skills to overcome this risk. Wineburg and Ziv found that the most effective approach combines teaching students how AI works, including how training data can perpetuate bias, with specific fact-checking skills that go beyond judging content by appearance.[6] When students learn to verify AI-generated information using multiple sources and understand AI's limitations, they become

significantly better at distinguishing reliable from unreliable content.

> **For Parents:** Ask your school probing questions. Are they trying to AI-proof their assignments by returning to paper-and-pencil tests, or are they reimagining assessment and learning? Are they teaching students to compete with AI or to collaborate with it? Schools clinging to the past will struggle; schools embracing thoughtful innovation will thrive.

From Information Collectors to Pattern Makers

Joyce VanTassel-Baska's research has shown that gifted students have "a strong capacity for the detection of underlying patterns, the identification of relationships between concepts, and strong analytic and metacognitive skills."[7] At one time, the encyclopedia was the height of technology. It enabled students to easily research one perspective on the events of the Civil War from one large book. With AI, students can ask questions about the Civil War on a nuanced and complex level. Imagine how meaningful the research can become; for example, AI can help students understand how economic patterns in the 1850s census data predicted which counties would have the highest casualty rates.

This represents a fundamental shift in what it means to be educated. We now have all this information and data at our fingertips. Our goal should not be to try to be better than AI at collecting and regurgitating data, but to make use of this data by seeking new connections and patterns that we can use.

Therefore, teachers must design learning experiences that allow students to do the intellectual heavy lifting. In the classroom, teachers can partner with AI to serve as a catalyst for gifted learners. With deeper inquiry, students can move beyond surface-level facts to

multi-layered questions. AI can also amplify diverse strengths. For example, a linguistically gifted student might use AI to explore patterns in language or gather feedback on clarity and tone, while a spatial learner might use it to visualize and test models of complex systems. In an AI-driven world, the quality of the question becomes the measure of intellectual strength. In this sense, AI is not a replacement for teachers, but a partner in cultivating creativity, curiosity, and the courage to take intellectual risks.

Risk: Skill Erosion and Cognitive Offloading.

In a 2025 study, Michael Gerlich warned that depending too heavily on AI can weaken persistence and fluency in essential skills, a process researchers call *cognitive offloading*. Data shows that the most effective way to prevent skill erosion involves teaching students *strategic selectivity*—when to rely on AI and when to use their own cognitive skills.[8] A 2024 study found that when students test their own knowledge before using AI, they retain more and stay more engaged.[9] Educational interventions that focus on *metacognitive*

awareness—helping students understand their own thinking processes—act as a protective buffer against excessive cognitive load offloading.

> **For Parents:** Celebrate when your child comes home with new questions, not just new answers. Ask them, "What connections did you discover? What surprised you? What made you want to investigate further?" These conversations signal that synthesis and curiosity matter more than simply accumulating information. Focus on process over product in assessments. Teach selective offloading rather than blanket AI avoidance.

Game-Proof Learning

Here's the uncomfortable truth: Any system can be exploited or manipulated. As Goodhart's Law famously states, "When a measure becomes a target, it ceases to be a good measure." If you create an educational system based purely on test scores, it will be gamed. Students, especially gifted students armed with AI, will game it faster than

educators can adapt. When test scores or school rankings become the primary focus of education, students rightly intuit that hitting the metric matters more than understanding the material. They optimize for the target, not the learning.

AI will amplify whichever mindset a student already holds, transactional or mastery driven. Students who focus on grades will use AI to game the system, while those who focus on understanding will use AI to explore deeply. This reveals an important distinction: cheating isn't a new risk. Students have always found ways to circumvent rules; AI simply changes the tools, not the motivation. The real question becomes: Are we designing learning experiences that inspire genuine curiosity, or are we stuck in a system that rewards performance over understanding?

Schools that prioritize accurately regurgitating facts, speed, formulaic responses, and arbitrary grading systems often erode the intrinsic motivation that makes AI a powerful learning partner. Neuroscience has shown that mastery-oriented feedback, such as process praise and reflective prompts, enhances motivation by activating brain regions associated with reward and learning.[10] This reinforces grit and resilience, contrasting sharply with the fleeting satisfaction of obtaining a grade. Understanding this mechanism underlines the significant distinction between AI serving as a tool for deeper exploration versus merely a means to an end.

The solution is not better detection software or more restrictions. It is designing learning experiences that are inherently meaningful and difficult to fake.

Risk: The Detection Trap.

In a 2024 survey of more than 2,000 university students, 47% of the respondents responded that AI makes cheating much easier.[11] In response, many schools turn to costly detection and surveillance tools to catch misuse. Yet, from my perspective as a head of school, these systems are often unreliable and reactive. They may flag legitimate work or miss genuine misuse, creating a culture of suspicion rather than trust. The issue isn't technology—it's the learning environment itself. When students feel pressure to perform rather than to understand, they are more likely to look for shortcuts. The better investment is in cultivating curiosity, integrity, and authentic engagement rather than policing dishonesty.

> **For Parents:** Look for assignments your child is excited to discuss. If they cannot explain their thinking process, if they seem disconnected from their work, or if they are focused primarily on "getting it done," that is a red flag, regardless of whether AI is involved. Is your child's school spending more energy catching cheaters or on designing learning experiences so engaging that cheating becomes irrelevant?

Philosophy as Your North Star

There is pressure on teachers and administrators to develop air-tight policies regarding the use of AI. Expert opinion ranges from both extremes, and in the time that it takes a school to develop a policy, AI has expanded and evolved in unimaginable ways.

At my own small school, which focuses exclusively on gifted students, we recognize that it is impossible to keep pace with the supersonic speed of AI. We choose instead to strengthen our understanding of gifted children and what they need to thrive, anchoring our future decisions to something more profound than the technology itself. Tools will continue to change, but our Philosophy of Gifted remains constant. It reminds us that gifted children need environments that emphasize curiosity, autonomy, and deep thinking. This framework serves as our guiding principle, shaping how we approach AI as an extension of our commitment to cultivating inquiry and creativity.

The same principle applies at home. The use of AI will evolve far faster than any set of rules you can impose today. What endures are the beliefs that guide us. Clarity about your philosophy becomes the compass and sets the boundaries for what is acceptable in your family. Identifying your personal values helps establish a solid foundation for utilizing any tool.

> **For Parents:** Before worrying about specific AI tools or rules, clarify your family's educational values. Do you prioritize curiosity over compliance? Understanding over grades? These beliefs will guide technology decisions you make. You have the power to shape these values and ensure they align with your child's best interests. You are much better off if you can draw a straight line between your rules and your values. In your school, request transparency about what AI tools are used and what data they collect.

How Parents Can Navigate This New Reality

Bring AI Into the Light: The best strategy with any technology is to bring it out into the open from the start. When we hide new technologies or treat them as forbidden, we miss the opportunity to shape how our children think about them. Children need to see how the values of their parents align with the use of these innovations. This means shared accounts, daily conversations, and modeling appropriate behavior. Show your child how you use AI to explore ideas, solve problems, or satisfy your curiosity. Let them see you wrestling with questions, not just seeking quick answers.

Change the Questions You Ask: The conversations we have at home

We Asked Students…"What Do You Think About AI?"

We asked students in grades 9-12, "How do you feel about the role of AI in education?" Most students who responded to the poll expressed negative views of AI, and every student who had positive thoughts about AI also included a caution or criticism of AI. Here's a summary of their responses.

by Sarah Bright

The pros

Many students replied that AI can be useful in a variety of areas, including helping students to take notes, study, and review; understand difficult concepts and content; and compile research and reading lists.

Practicing and studying

"I believe that it can be a useful tool for easier note-taking, lesson planning, and studying purposes,"—Mariam, grade 10

"If you are using it to create a quiz outline or have AI quiz you, I think that it is fine."—Alessandro, grade 11

"Personally, it has helped me with outlining, research, and note-taking."—Gianna, grade 12

"Using it to understand or help process notes from before in a simple way could be a productive way to utilize it."—Ashwat, grade 11

"AI can be useful for certain things in education, like making study guides [and] helping you if [you're] not understanding a topic."—Giada, grade 11

Helping students understand complex concepts

"It has been a useful tool for guiding me in challenging questions for homework assignments. When a challenging question arises and I can't figure out any solutions, I turn to AI to help me with the next steps. It also is great for providing similar questions to the one I was stuck on."—Marshall, grade 12

"I think AI can be helpful for summaries and to make harder text easier to understand."—Jacob, grade 12

"I think AI should be allowed to create small assignments and the info we need to read, but I think bigger projects should be created by the mind."—Jacob, grade 12

The cons

Students' negative views of AI fell into several main categories: it is untrustworthy and inaccurate; it cannot and should not be used in creative and artistic endeavors; it facilitates cognitive offloading that is detrimental to students' learning; it has destructive environmental impacts; and it facilitates cheating.

AI is inaccurate, untrustworthy, and unethical

"I think that AI should not be trusted in the field of education as it is often wrong about things. It will do things like cite satirical websites or Reddit posts as sources."—Charles, grade 11

"AI is unreliable and often gives incorrect or completely made-up information, making it useless as a search engine."—Sammy, grade 11

"Generative AI tools are ridiculously unethical in how they source materials for the learning AI. They take images and writing from non-consenting users all over the internet, undermining and devaluing the important work done by writers or artists."—Lillian, grade 11
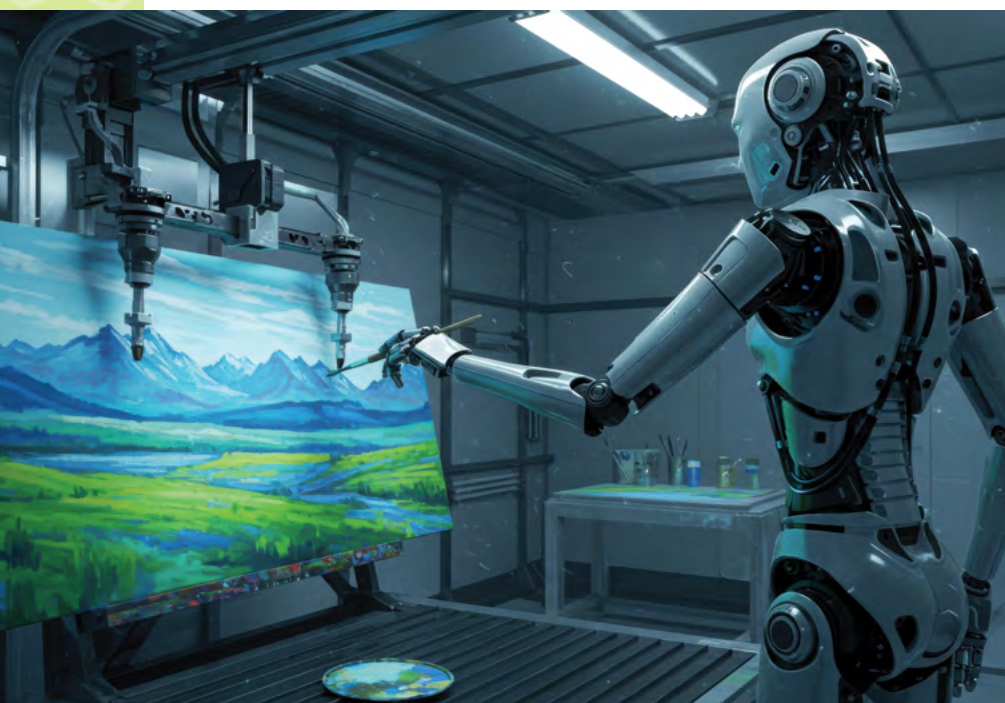
The students had mixed views about teachers' use of AI

"I believe that it can be a useful tool….for lesson planning"—Mariam Gomez, grade 10

"AI can be useful for…creating lesson plans for teachers" —Giada, grade 11

"AI should absolutely not be used to cheat on things but I do think this goes both ways. If I am not allowed to use AI to cheat on assignments the teacher must not use AI to create or grade assignments."—Charles, grade 11

"It creates sloppy results and gives the impression that whoever is using it simply does not care enough to put in actual effort for their students."—Lillian, grade 11

AI should not be used in art or other creative pursuits

"I personally dislike the application of AI in anything related to arts, for example, music, art, creative writing, etc. I feel like it takes away from the original person's creativity and ability to create something unique, and makes the process very simplified and repetitive, with no "soul" or personal style in the final result."—Susan, grade 11

"I also think AI should not be used for art because art is a creative piece of the mind."—Jacob, grade 12

"AI 'art' is not real art because art is an interpretation of the human condition and a machine cannot experience that."—Charles, grade 11

AI has destructive environmental impacts

"Data shows that AI usage also has negative consequences for our environment. The centers that house AI servers use large amounts of water to cool down their electronic equipment. According to the OpenAI CEO, each question given to chatGPT uses about 0.3 ml of water. That adds up."—Dilys, grade 11

"It also uses huge amounts of water and electricity—about 10 times more than a normal Google search, which is more reliable and easier to fact-check anyway."—Sammy, grade 11

"It also greatly negatively impacts the natural environment as it is unsustainable and comes from fossil fuel-based power plants. In addition to this, AI's projected water usage could reach 6.6 billion cubed miles of water by 2027."—Mariam, grade 10

"One of my biggest concerns is just how bad AI is for the environment, and how a lot of people don't realize just how many resources it takes to power AI."—Liora, grade 11

AI enables cheating

"I don't like the way most students use it to cheat in the classroom and get ahead and change class grade"—Marshall, grade 12

"It should definitely be considered cheating if someone uses it without making any changes to the given answer."—Ashwat, grade 11

"I believe that AI is abused specifically for cheating."—Gianna, grade 12

AI facilitates cognitive offloading that is bad for students' academic development

"AI has allowed students to become lazy as they rely on AI to write essays and solve problems for them. Especially with high school students as we prepare for college or the real world, we won't be able to rely on AI to solve problems especially as we move into the work force, which will be a strong wake up call for many current students."—Leo, grade 11

"AI … has an impact on the human brain's retention of information (as it can be used in many ways to shortcut things that we should be learning instead of quickly memorizing or copy-and-pasting)"—Mariam, grade 10

"When I see my friends use it and ask AI every single question I begin to think that they are hurting themselves because they aren't learning anything."—Nebo, grade 11

"I feel like students don't have to think as hard about what they're creating, and in turn everything that is made is not as enjoyable or interesting to read…There aren't original ideas or the effort and dedication that goes into actual writing, art, or assignments."—Liora, grade 11

"Students do not gain the full value of their education unless they put in the effort to study and do their assignments manually. Studies have shown that an overreliance on AI negatively impacts cognitive abilities in students."—Sammy, grade 11

"Students shouldn't be allowed access to AI for more than generating images or asking simple questions. For anything more, it would take away from their education and would deteriorate their ability to think independently."—Dilys, grade 11
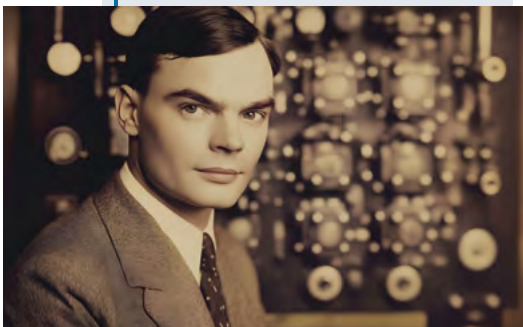
The AI Effect: A Timeline of AI in Education

by ChatGPT 5, Google Gemini 2.5, and Perplexity Pro

1900–1960: THE CONCEPTUAL BIRTH OF AI

1920s: Radio was a cutting-edge educational tool, enabling broadcast lessons to reach students at a distance—the first sign of technology personalizing learning.[3]

1924: Sidney Pressey, a psychology professor at Ohio State University, built the first "teaching machine." Students answered multiple-choice questions, received immediate feedback, and could move forward only after getting the right answer. This was the start of automated instruction.[1]

1950: Alan Turing published "Computing Machinery and Intelligence," which proposed the Turing Test as a benchmark for determining if a machine can exhibit intelligent behavior indistinguishable from a human's.[2]
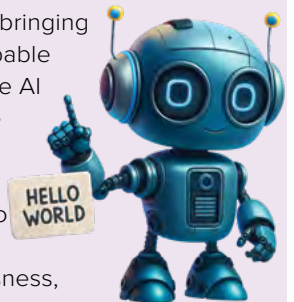
1956: The term "Artificial Intelligence" is officially coined at a summer workshop at Dartmouth College, considered the birth event of the field.[2]

1960-2000s: EXPERT SYSTEMS AND INTELLIGENT TUTORING

1960s: AI "expert systems" like DENDRAL showed computers could make decisions in specialized areas such as chemistry.[1] The PLATO system, one of the first computer-based education systems, presented lessons and quizzes on a computer screen and paved the way for interactive e-learning decades ahead of its time.[3]

1966: Joseph Weizenbaum created ELIZA, an early natural language processing (NLP) program that simulated a psychotherapist. While simple (it mostly just restructured user input), it demonstrated the potential for human-computer conversation.[2]

1983: The LISP Tutor emerged as one of the first Intelligent Tutoring Systems (ITS), adapting lessons to each student's performance.[1]

1990s: AI began showing up in classrooms through spell-checkers, grammar checkers, and early versions of automated essay scoring. These tools weren't perfect, but they paved the way for today's writing feedback systems.[1]

1997: IBM's Deep Blue becomes the first computer program to defeat a reigning world chess champion (Garry Kasparov) in a match under regular time controls.[2]

2000s: The internet and more powerful computers meant AI could analyze larger datasets, supporting predictive analytics that identified students at risk, and offered personalized interventions.[3] Adaptive learning platforms like Knewton and Smart Sparrow began adjusting lessons in real time based on individual performance.[2]

2002: iRobot Roomba brings a functional, commercially successful AI-powered robot into millions of homes.[2]

2010- 2025: DEEP LEARNING AND GENERATIVE AI

2011: IBM's Watson defeats two human champions on the quiz show Jeopardy![2]

2015: Google released TensorFlow, a tool that made powerful AI methods accessible to researchers everywhere.[1]

2020: DeepMind's AlphaFold program solved a 50-year mystery in biology by predicting how proteins fold into complex 3D shapes. This discovery helps scientists understand how our bodies work and speeds up the search for new treatments.[1]

2020-2023: The COVID-19 pandemic accelerated the adoption of remote and AI-powered education, normalizing online classrooms and virtual learning experiences.[3]

2022: OpenAI launches ChatGPT, bringing highly capable Generative AI and Large Language Models (LLMs) into the public consciousness, triggering a massive technological and cultural shift.[2] Suddenly, students could ask AI to explain math problems, summarize articles, or even brainstorm essays.[1]

PRESENT DAY

- AI now supports lesson planning, administrative work, and formative assessment, freeing educators to focus on relationship-building and advanced instruction.[3]

Gemini

MAGIC SCHOOL

turnitin

- Natural language processing enables AI to understand and respond to student questions, simulate real conversations, and even create custom learning resources.[3]

- Generative AI is democratizing content creation, helping parents and teachers quickly customize engaging materials for students, including those who are gifted or need more challenge.[3]

Endnotes

[1] ChatGPT 5

[2] Google Gemini 2.5

[3] Perplexity Pro

THE NEXT DECADE: AI'S FUTURE IN EDUCATION AND DISCOVERY (2025–2035)

- **AI-Driven Scientific Discovery:** AI will fundamentally accelerate the pace of scientific research. LLMs and specialized AI tools will significantly advance the discovery of new materials, climate solutions, and personalized medicine, moving from prediction to independent experimentation.[2]

- **Early Artificial General Intelligence (AGI):** The world will likely see the development of an AI system that can perform a majority of economically valuable human work at or above human expert level. This milestone will trigger intense global debate on economic structure, ethics, and governance.[2]

- **The AI Literacy Imperative:** AI literacy will become a mandatory skill, integrated into school curricula globally, as critical thinking about AI-generated content and tools becomes necessary for daily life and employment.[2]

- **Predictive analytics** will proactively identify students' needs, strengths, and gaps, enabling early intervention and optimal challenge for high-potential learners.[3]

- **Virtual tutors and avatars** will offer one-on-one support, feedback, and mentorship to gifted students worldwide, in multiple languages and subjects.[3]

- **Generative AI will empower students** to design projects, conduct original research, and collaborate globally, making education more student-driven and creativity-focused.[3]

- **Ethical considerations,** such as equity, bias, privacy, and teacher-student relationships, will become central as AI becomes an everyday part of education.[3] Without careful oversight, AI could amplify existing inequalities, especially for students from under-resourced communities or those without access to devices or internet.[1]

- **The Data Paradox:** As AI-generated content floods the web, researchers warn of data scarcity, a shortage of high-quality, human-created text for training future AI systems.[1] Since AI-generated content is estimated to already comprise 50% of online material, researchers predict that the public, human-written data necessary to train the next generation of AI could run out by 2026. To sustain AI advancements, we need to focus on creating controlled, high-quality synthetic data and finding new data sources, like data from Internet of Things (IoT) devices.[1]

(Continued from p. 5)

Try This at Home

Make "Let's rabbit hole that" a family phrase. When a question or curiosity comes up, use this phrase to signal that it is worth chasing further. *Why it matters:* This reframes curiosity as purposeful exploration, not wasted time.

Use AI as a springboard, not an endpoint. Start with an AI-generated answer, then ask, "What else could this lead to?" *Why it matters:* This teachers kids to see AI as a trail marker rather than a destination.

Turn rabbit holes into creations. Encourage children to make something from what they discover, whether that is art, writing, or a presentation. *Why it matters:* This reinforces persistence and demonstrates that curiosity can lead to meaningful products.

Rabbit holes are not distractions. Instead, they are portals to possibility. Some lead to small insights, others to expansive new landscapes of knowledge. AI can accelerate the journey, but it is wonder that opens the door and wisdom that waits on the other side. By guiding children to rabbit hole with intention, parents show them that curiosity is not a detour. It is the pathway to discovery.

Raising Wonder, Building Wisdom

AI is now part of your gifted child's world. It can widen their reach, accelerate their ideas, and open new doors. But what matters most is not the power of the tools in their hands. What matters is the strength of the guidance at their side. Parenting a gifted child in the age of AI is not about mastering every algorithm or staying ahead of every new app. It is about showing your child that curiosity, courage, and creativity are still the greatest human superpowers. These are the qualities that cannot be automated, downloaded, or replaced.

You do not need to have all the answers. What you bring is even more powerful: the willingness to ask questions, to model persistence, to wrestle with what is fair, and to wonder out loud. By learning alongside your child, you send the message that wisdom grows not from certainty, but from curiosity shared in community.

Together, you and your child are building more than projects or school assignments. You are building muscles of critical thinking, a compass for ethical choices, a paint-brush for creativity, a backbone of responsibility, and a portal into wonder. These are the lifelong tools that AI can never provide on its own.

AI may follow recipes, but it cannot cook up meaning. It may offer answers, but wisdom comes from you and your child, walking side by side into the future, not as competitors with technology but as explorers of what it means to be fully and wonderfully human.

Author's Note

Dr. Brian Housand believes learning should feel like a grand adventure filled with curiosity, creativity, and joy. As Program Coordinator of the Academically or Intellectually Gifted Graduate Program at the University of North Carolina Wilmington, he helps educators learn to design experiences that spark wonder and deepen thinking while nurturing the social and emotional growth of gifted learners. A nationally recognized consultant and keynote speaker, Brian travels the country (both in person and virtually) helping schools reimagine what gifted education can be. He is the co-author of *SEED: Silverquicken Episodes for Enrichment and Diagnosis,* a puzzle-filled curriculum that blends storytelling and discovery to reveal student potential. Through his Gifted360 platform, Brian creates engaging online courses and communities for educators. His latest project, *An Insider's Guide to Rabbit Holes,* invites learners of all ages to follow their curiosity, make creative connections, and rediscover the joy of learning. Learn more at **brianhousand.com**.

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matter. Instead of asking "Did you get it done?", try "What new questions did you come up with?" Instead of "What did you learn today?", ask "What made you curious today?". These shifts signal that the process of thinking matters more than the completion of tasks. When your gifted child comes home excited about using AI to explore some fascinating rabbit hole, resist the urge to worry. Instead, ask them to walk you through their thinking. What questions led them there? What surprised them? What do they want to investigate next?

Choose Your Partners Wisely: Finally, partner with schools that prioritize autonomy, inquiry, and deep learning over rote tasks. Look for educators who understand that gifted children require intellectual challenges, not just additional work. Seek out classrooms where AI serves as a tool for exploration rather than a threat to academic integrity. The goal is not to shield our children from AI, but to help them develop the wisdom to use it well.

Our Calculator Watch Moment

AI represents a paradigm shift in education every bit as significant as the introduction of writing, the printing press, or the calculator. For gifted students, both the challenge and the promise are especially profound. Their natural curiosity and capacity for abstract thinking make them ideal explorers of this new terrain. AI will not diminish their creativity or replace their unique ways of seeing the world, but it will challenge us as educators and parents to keep those qualities at the very center of learning.

My teacher was wrong about that calculator watch. She saw my watch as cheating when she should have seen it as an invitation to ask better questions. This is our calculator watch moment. The opportunity before us is not to protect the past, but to help our children build a future we can barely imagine. For parents of gifted children, success

means staying anchored in what matters most—curiosity, creativity, connection, and wisdom—while embracing tools that can amplify these essentially human qualities.

Author's Note

Conrad Wildsmith is the Head of School at the Science & Arts Academy in Des Plaines, IL, a nationally recognized independent school for gifted children. With nearly 30 years of experience in gifted education, Montessori, and language immersion programs, he has served as a teacher, founder, and school leader across multiple states. His work focuses on aligning curriculum, culture, and leadership to support the whole child academically, socially, and emotionally. At SAA, Conrad is leading initiatives that integrate the curriculum, enhance social-emotional learning, and create authentic, hands-on opportunities for gifted learners. He is passionate about helping schools move beyond compliance and perfectionism toward curiosity, creativity, and deep learning. Conrad holds degrees in Elementary Education, Gifted Education, and Leadership and Policy Analysis.

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At the heart of the Strength-based Assessment Lab lies a profound mission:

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