*Edu*verse

NEWSLETTER

SPECIAL FOCUS

AI & US
THE NEW HARMONY IN EDUCATION

FOR THE BETTERMENT OF ALL

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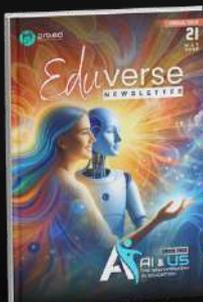
EduVerse
PD NETWORK

**Welcome to EduVerse PD Network,
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In this dynamic era of learning, staying ahead requires a constant thirst for knowledge and an openness to exploring new frontiers. That's why we created EduVerse PD Network, committed to offering valuable professional development resources for educators globally, our platform aids teachers in exploring educational trends, advancements, EdTech insights, and practical teaching tips—all at no cost.

With a dedicated focus on the needs and aspirations of educators, we curate a diverse range of best practices to support your teaching journey. From cutting-edge pedagogical strategies to engaging classroom activities, we are here to equip you with the tools and inspiration you need to ignite curiosity, foster creativity, and cultivate lifelong learners.

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MESSAGE
FROM THE EDITOR

Dear Esteemed EduVerse Readers,

As the education landscape continues to evolve, we find ourselves in the midst of one of the most transformative shifts of our time—the growing partnership between humans and artificial intelligence. In this special 21st edition of the EduVerse Newsletter, we are proud to explore the theme **AI and Us: The New Harmony in Education.**

This issue invites you to reflect on the emerging relationship between educators and intelligent systems —not as rivals, but as collaborators in the shared mission of empowering learners. Rather than replacing the human element, AI is increasingly being designed to amplify our potential, support creativity, personalize learning, and lighten the cognitive load on teachers so they can focus on what matters most: human connection, mentorship, and holistic development.

In these pages, you will find thought-provoking perspectives from educators, researchers, and practitioners who are redefining what it means to teach and learn in the age of AI. From ethical considerations and classroom-ready AI tools, to the importance of emotional intelligence and empathy in tech-enhanced learning environments, our contributors explore how we can create a meaningful balance —one where technology supports, but never overshadows, the human spirit.

At EduVerse, we believe this harmony between AI and us is not only possible but necessary. As we step into this new era, let us do so with curiosity, care, and a firm commitment to using innovation as a force for equity, empowerment, and deeper learning.

Thank you for being part of this journey. We hope this edition inspires you to imagine and co-create a future where education remains profoundly human—augmented by AI, but always led by purpose and heart.

Editorial Board,
EduVerse Newsletter

IN THIS ISSUE

SPECIAL INTRO | IN THE VERSE | PARTNER SHOWCASE
TECH TIPS AND TOOLS | FREE WEBINAR

GLOBAL VOICES

AI is reshaping the future of education—not as a replacement for human connection, but as a powerful partner in learning. As technology becomes more integrated into classrooms, a new harmony is emerging between human insight and artificial intelligence. This evolving relationship invites educators to rethink how we teach, learn, and connect. In this special edition, the *EduVerse Newsletter,* themed *AI and Us – The New Harmony in Education*, brings together voices from around the world to reflect on how AI can support meaningful, ethical, and inclusive learning experiences for all.

AI & US
THE NEW HARMONY IN EDUCATION

1 How do you see the balance between AI and human activities/strategies in education?

The balance between education and artificial intelligence, more than obvious, it is necessary. AI has been presented as an alternative whose growth is accelerated, vertiginous; therefore, teachers and students must be at the forefront of technological advances and know strategically how to place them at their service. The balance between education and AI lies in the strategies that teachers use to make the best possible use of this technological advance. This involves EDUCATION, preparation, not being afraid of the challenge, and being up-to-date.

Prof. Angélica María Rojas Isaza

Universidad de la Amazonia, Colombia

The balance between AI and education requires thoughtful integration. AI excels at personalization, automating administrative tasks, and providing immediate feedback, freeing educators to focus on what's uniquely human: mentorship, emotional support, and ethical guidance. The ideal approach leverages AI as a tool that enhances rather than replaces human connection. Teachers remain essential for context, nuance, and developing critical thinking skills that AI cannot replicate. The goal should be partnership—AI handling scalable tasks while humans foster deeper learning and development.

David Roberts

BlueberryML The United Kingdom

Unbalaned, either there is a lack of understanding of the AI potential or there is a lack of understanding into essential needs around education strategies but rarely somebody knows a little bit of both.

Riccardo Stevanato

Politecnico di Torino Italy

Only with PBL can a teacher be creative. With scripted books and ready made materials in many schools, they can't do a lot.

Phil Alcock

PBL Future Labs Australia

I believe AI should be used as a supportive tool in education, complementing human strategies rather than replacing them. AI can handle repetitive tasks, offer personalized learning paths, and analyze student data for better insights. However, human educators bring empathy, creativity, and emotional intelligence — qualities AI cannot replicate. A healthy balance involves using AI for efficiency and data-driven insights while allowing teachers to focus on mentorship, values, and human connection, creating a more holistic and adaptive learning environment.

Musisi Godfrey

Kasumba Nursery and Primary School, Uganda

TECH &HEART

A NEW ERA OF HUMAN-CENTRIC EDUCATION

Dr. Le Dinh Bao Quoc

In the last three years, as if by magic, AI has swept into every corner of our world, touching lives with a silent, relentless force. Nowhere is this transformation more vivid than in the realm of education. AI has reshaped what we thought was unchangeable. Education, that timeless dance between teacher and learner, was suddenly being choreographed by algorithms.

We welcomed it. We adored it. We feared it. We questioned it.

And now – perhaps – it's time to embrace it, but not just its power, but our place beside it.

THE MOMENT THAT SPARKED MY JOURNEY

I remember the moment vividly—the day ChatGPT emerged in November 2022. It was as if a new constellation had appeared in the vast sky of technology, sparkling with infinite possibilities. With a mix of exhilaration and cautious wonder, I immersed myself in exploring this new frontier. Just four short months later, I found myself penning *The Art and Science of ChatGPT in Education*, a book born out of urgency, curiosity, and wonder.

I wasn't trying to tame the technology. I wanted to talk to it, to understand how it might walk alongside teachers, not ahead of them. I saw firsthand how AI could sift through oceans of information, present data with astonishing speed, and even suggest personalized learning pathways. But as I marveled at these capabilities, I couldn't help but feel a subtle undercurrent—a reminder that amidst the algorithms and digital precision, something uniquely human was at risk of being overshadowed. A question kept whispering in my heart: *What happens to the soul of education when machines begin to speak our language?*

That question never left me.

What happens to the soul of education when machines begin to speak our language?

AI'S INVASION: A BEAUTIFUL STORM

It's hard to describe the speed of it all.

Imagine standing on a beach at dawn, watching the tide roll in. The waves, majestic and powerful, relentlessly surge forward. This is much like the way AI has integrated itself into our everyday lives over the past few years—unavoidable, omnipresent, and transformative. In education, AI tools have sprung up like wildflowers after a spring rain: adaptive learning systems, automated grading, and virtual tutors, each blooming with promise.

One day, we were sketching and typing. The next, we were watching AI generate entire lesson plans before the kettle finished boiling. It was thrilling. Terrifying. Liberating.

AI wasn't just a tool—it was becoming a presence in the classroom. Silent but significant. The thing that doesn't raise its hand, but still shapes the conversation. Yet, unlike the tide that shapes the shore with both beauty and force, the rise of AI poses an urgent question: As these technological marvels advance, who will tend to the delicate sands of human connection? Who will preserve the artistry of teaching and the warmth of mentorship that defines true education?

I worried about the fading sound of a teacher's instinct. The subtle look between students working together. The kind word that comes not from data, but from empathy. We didn't need to push back against the AI wave. We needed to learn how to surf it—gracefully, purposefully, with humanity intact.

THE HUMAN SPARK
I COULDN'T LET GO

The more I leaned into this new world, the more I clung to what made me *me*—and what made our classroom a living, breathing place. I'd think back to the moments that defined my years as a teacher: the student who'd shyly share a wild idea during a conversation, the way their classmates would lean in, eyes wide, to build on it. No chatbot could spark that. AI could churn out facts and figures, but it couldn't sit with us in that circle, feeling the weight of a tough question or the thrill of a breakthrough.

Let's pause for a moment and imagine a teacher. Not the one behind a desk, but the one sitting cross-legged with her students, reading *The Little Prince* aloud. Her voice trembles at the line, *"What is essential is invisible to the eye."*

That is the magic of human intelligence.

AI can mimic knowledge. It can predict. It can calculate. But it does not feel the weight of a child's silence. It doesn't sense the trembling joy of a student who just solved their first equation after weeks of struggle.

Our critical thinking is a tapestry woven from experiences, emotions, and reflections. It is what drives us to ask not only "how" but "why." When a teacher guides a class through the labyrinth of ideas, it is their unique perspective, honed through years of living and learning, that illuminates the path. This wisdom, born from the soul of human experience, cannot be digitized.

Human intelligence is messy, unpredictable, and deeply beautiful. It's found in the questions we don't know how to ask, in the pauses between ideas, in the stories we share, not because they're efficient, but because they matter. It is an art—a delicate dance of inquiry and insight—that keeps the spirit of education alive.

THE BEAUTY OF
PEOPLE SKILLS

If intelligence is the mind, people skills are the heart of education.

I have seen classrooms where, amidst chalk dust and soft murmurs, genuine relationships bloom. There, empathy flows like a gentle stream, nurturing every student's unique potential. It is the warm smile of a teacher who sees each child not as a statistic but as a story waiting to unfold, as a melody longing to be heard.

Empathy and emotional intelligence are the quiet forces that transform a simple lesson into an unforgettable life experience. They are the ingredients that make collaboration, mentorship, and community possible. They – empathy, emotions, and compassion –are not features. They are feelings. They are *us*.

And they are needed now more than ever.

In a world where information is instant, what's rare is *understanding*. AI can give feedback, but only humans can give *care*. It is in the warmth of a teacher's voice, the encouragement in their eyes, the belief they plant quietly in every learner they meet.

This is not poetic indulgence. This is the truth of our classrooms. The heartbeats that data cannot measure. The human touch that remains irreplaceable.

NURTURING OUR HUMAN QUALITIES

So, how do we ensure that in our quest to embrace AI, we do not lose sight of the human elements that define us? The answer lies in a deliberate, nurturing approach—one that seeks to cultivate our innate strengths even as we harness new tools.

✦ Invest in professional development

Imagine a garden where every educator is both a gardener and a seed. Continuous learning is the water that nourishes this garden. Invest in professional development that emphasizes soft skills such as communication, leadership, and ethical reasoning. Creating an environment where technology serves as a tool to enhance, not replace, the human touch. Attending workshops that not only taught us about AI but also rekindled our passion for storytelling and human connection.

✦ Revamp the curriculum

Make our curriculum reimagined a vibrant canvas, rich with colors of critical thought, creativity, and emotional intelligence. In this new landscape, project-based learning and real-world problem-solving become the brushstrokes that bring lessons to life. AI can provide the data and background, but it is the human mind that interprets, connects, and transforms that information into wisdom. In classrooms around the world, educators are beginning to integrate modules that encourage students to engage with ethical dilemmas, creative challenges, and reflective practices—ensuring that technology remains a partner in the dance of learning.

✦ Foster community and collaboration

Visualize a bustling marketplace where ideas are exchanged freely, where teachers, students, and parents come together in a spirited conversation. This is the essence of a community that values human insight. Establishing spaces for dialogue whether through community workshops, round-table discussions, or online forums to create a dynamic ecosystem where every voice matters. It is in these collaborative spaces that the real magic of education happens, as diverse perspectives converge to create a mosaic of shared wisdom.

✦ Embrace mindfulness and self-reflection

In our fast-paced digital age, the art of slowing down and listening to one's inner voice is more precious than ever. Mindfulness practices, such as reflective journaling or group discussions, act as gentle reminders to stay present. They help us go through the noise and focus on what truly matters— our thoughts, feelings, and connections with others.

HOW WE CAN RISE, NOT RETREAT

So how do we strike the harmony? How do we walk with AI, without losing ourselves? We don't need to fight technology—we need to grow beside it.

✦ Reflect, before you react

Before adopting every new tool, let's pause and ask: *Does this enhance our ability to connect, mentor, and inspire, or does it risk distancing us from the personal touch that makes teaching so profound?* When we evaluate technology with this mindset, we choose tools that reinforce collaboration and emotion. Reflecting before reacting ensures that the tools we bring in don't overshadow the gentle art of nurturing growth. In practice, this might mean using AI to facilitate group discussions or to spark creative projects, rather than letting it dictate every lesson plan.

✦ Reclaim our time for what matters

The true magic of education lies in moments of genuine human connection—those spontaneous discussions, the shared laughter, and the quiet nods of understanding. Let AI handle the mundane. Let it check the quizzes, arrange the schedules. And let us reclaim time to inspire, listen, mentor, and imagine. This is where education transcends facts—it becomes an art form. When we reclaim time, we teach not only what is in the textbooks but also the values, ethics, and dreams that define us as human beings.

✦ Teach the skills AI can't learn

Let's reimagine the curriculum—not just to include AI literacy, but to prioritize emotional intelligence, ethical reasoning, curiosity, resilience. These are the skills our students will need to lead a life of meaning in an AI-powered world. It means creating learning environments where curiosity is nurtured, where failure is seen as a stepping stone, and where ethical questions spark passionate debates. In doing so, we prepare students to not only interact with technology but to shape its trajectory in ways that benefit society.

✦ Model humanity, every day

Every small gesture—a smile, a thoughtful question, a shared laugh—these simple acts are the building blocks of a vibrant educational environment. They are subtle affirmations that we are more than processors of information; we are beings capable of deep emotion and connection. As educators and leaders, our actions speak louder than words. Consistently modeling kindness, curiosity, and ethical behavior, we provide a living curriculum for our students. And when we make a conscious effort to be present and empathetic, we create an environment where every student feels valued.

Let us model how to be human—deeply, kindly, and courageously.

A NEW SONG FOR THE CLASSROOM

Now, as I write this on an April day in 2025, I see our story unfolding. I want teachers and learners to soar with AI—to use it smartly, to let it lift them higher. But *more than that,* I want them to know their wings are their own—their ideas, their hearts, their grit. I imagine a classroom where the chatbot hums quietly in the background, feeding us ideas while we paint the world with our own colors. It's not about choosing between tech and touch—it's about blending them into a new song. I want to see it work: a student who once hid behind his screen now leads discussions, his confidence blooming because I took the time to listen, not just to click.

As we move forward into this brave new world, the story of *AI and Us* remains unfinished—a living narrative that we all contribute to with every choice we make. My journey from the early days of ChatGPT to writing *The Art and Science of ChatGPT in Education* has taught me that technology, no matter how advanced, can never replace the soulful interplay of human intelligence and emotion.

Instead, let us embrace AI as the gentle wind beneath our wings, lifting us to greater heights while we remain firmly anchored by our values.

THE FUTURE IS STILL OURS

I once heard someone say: *"We teach best what we most need to learn."* Perhaps that's why this article is so personal to me.

I needed to remember that I am not here to race against AI. I am here to *rise with it.* But I must rise as myself—flawed, feeling, thoughtful, human.

And so must you.

Let's step into this future not as shadows of our machines, but as the architects of harmony. Let us teach not from fear, but from wonder. Let us show our students that even in a world of glowing screens and neural networks, the most powerful technology is still the human heart.

Because at the end of the day, education is not about what we *deliver*—it's about who we *become*.

And that, my friend, is something only we can choose.

Written with heart by Le Dinh Bao Quoc
Editor-in-Chief of EduVerse

Le Dinh Bao Quoc, EdD, is an educational innovator with over 20 years in English Language Teaching. He founded Pro.Ed Education Solutions, providing strategic consultancy to schools, and EduVerse, a global professional development community offering free, high-quality resources to educators worldwide. Author of *The Art and Science of ChatGPT in Education*, Dr. Quoc explores the integration of AI in education. His research focuses on educational technology, teacher development, and leadership.

WHY THE THEME AI AND US

This special edition of EduVerse is a letter to educators, learners, and dreamers navigating the tides of change.

The theme *AI and Us*: *The New Harmony in Education* was born from my own journey—one that began with the exhilaration of ChatGPT's debut and evolved into a deeper contemplation of what it means to be human in an age of machines. It wasn't to highlight AI's marvels. We've all seen what it can do. I chose this theme to highlight us—the teachers staying up late to adapt, the students learning how to question not just answers, and, the parents navigating a world they never imagined their children would inherit.

For me, *AI and Us* is a clarion call—a reminder that while AI can do many things, it is our uniquely human qualities that imbue education with meaning. It is a theme that speaks to the artist, the philosopher, the mentor, and the student within each of us. It is an invitation to embrace technology not as an end, but as a means to a greater, more beautiful journey of learning and discovery.

I chose this theme because I believe we are standing at a crossroad. One path leads to automation, efficiency, and quiet dependency. The other leads to harmony—where AI becomes a mirror, not a master. A partner, not a replacement. The difference between those two futures depends on us. On how we choose. On how we teach. On how we love.

In the end, *AI and Us* is more than just a theme. It is a promise—a promise to honor our humanity as we journey into the unknown, to craft a future where the wisdom of the past meets the innovations of tomorrow, and where every step forward is taken with both courage and compassion.
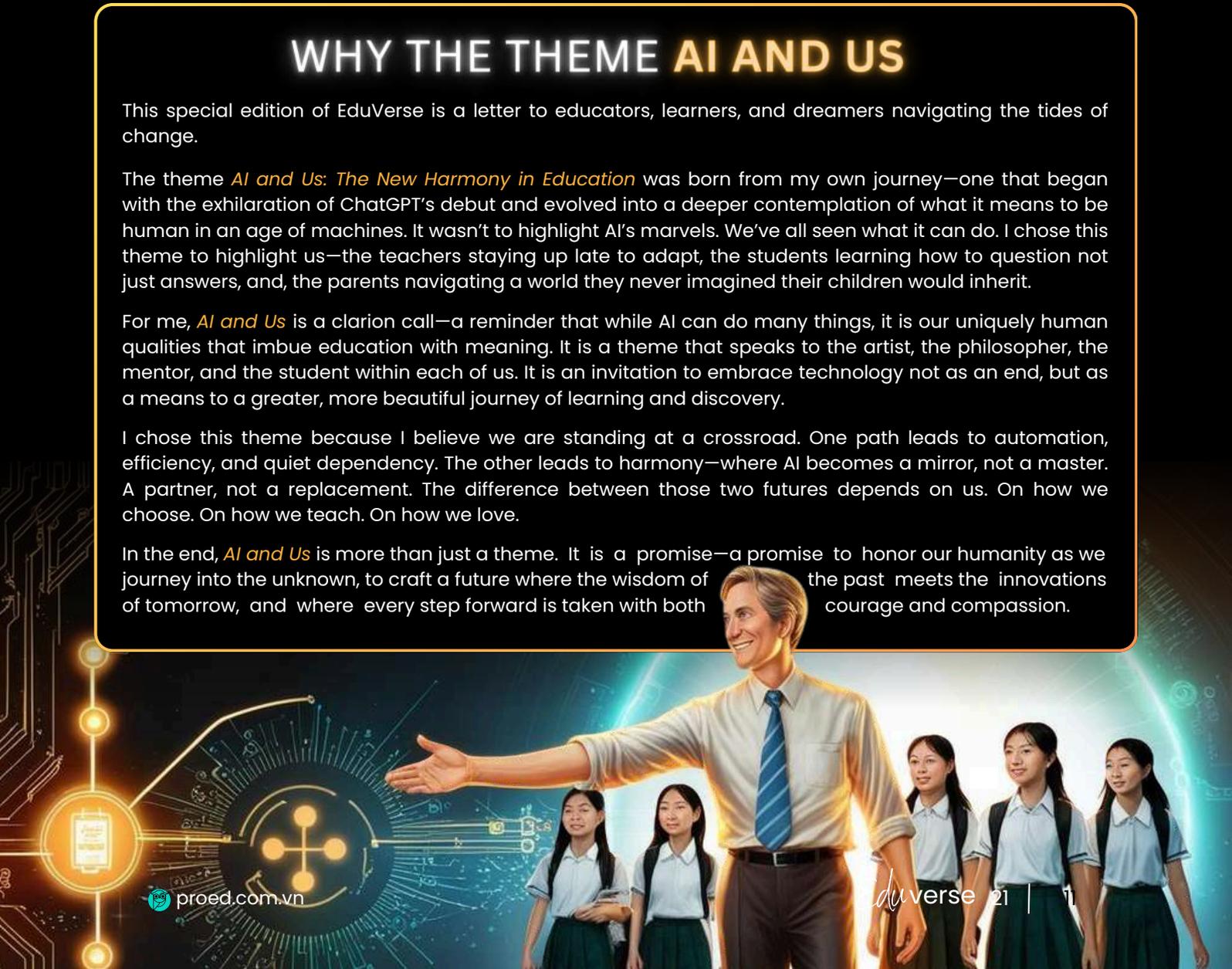
MAINTAINING STUDENT-TEACHER RELATIONSHIPS IN THE AGE OF AI

Dr. Ilka Kostka
Dr. Rachel Toncelli

Students today have more access to technology than ever before, including generative AI (GenAI). As more of what we do in daily life involves technology, we need to make sure that one of the most fundamental parts of teaching is preserved: the human connection to students. As English language teachers, we are uniquely positioned to maintain this connection. We use a range of student-centered teaching methods to engage students and maximize target language use. We offer plenty of opportunities for interaction, collaboration, creative problem solving, and real-world use of English. Nonetheless, keeping human-centered connections seemed to be much easier before digital tools, AI, and smartphones. When AI can do so many things for us, and when so much of our lives takes place online, how do we preserve relationships with students? How do we build trust around AI use instead of taking punitive measures? Here are four ways of ensuring relationships with students remain human-centered and meaningfully support learning in the age of AI.

1 USE AI *WITH* STUDENTS

Teachers may hesitate to openly use GenAI in their classrooms. Wouldn't that invite students to use AI to do their work for them and encourage inappropriate use of AI? We thought about this too as we first brought AI into our classes, but we quickly found that students enjoyed using AI and talking about AI-generated output. Class discussions were lively, as there was so much to say about how the tools work. We'd argue that addressing the elephant in the room and inviting GenAI in can open doors to exploration, discovery, and critical AI use. It can also minimize some of the fear and concern that students have around AI and in turn pave the way for transparent and productive use.

One way in which we use AI with students is to engage them in critically analyzing AI output. For instance, we read Amy Tan's well-known essay called "Mother Tongue." In class, we have prompted ChatGPT to respond to a series of questions from Amy Tan's perspective. Students generated the interview questions, which talked about ways in which Tan referred to standard and "broken English." Students then looked back at Tan's reading to find evidence that either confirmed or negated the AI-generated responses and presented their analysis to the class. They saw firsthand how AI does not always produce correct answers and disagreed with the output. A key part of this activity and many others is to reinforce the idea that all AI output must be analyzed critically. Activities like these are especially important as one of teachers' main concerns about AI is that it will erode students' critical thinking skills (Toncelli & Kostka, 2024).

We're fortunate to have high-speed internet and institutional access to AI tools at our university, and we recognize that educators in other settings may not have the same access. If AI tools are banned or unavailable, bringing AI into the classroom in other ways is still possible. For example, teachers can talk to students about AI and how it is changing education and society more generally. In one of our listening and speaking classes, we watched a recent news report about how people use AI for companionship. We talked about the implications of relying on AI to fill emotional needs and imagined how that might affect romanticrelationshipsand friendships in the near future. This activity was included within a listening lesson in which the focus was to identify the structure of the news report and its main ideas. While AI wasn't used in the activity, the topic of AI in society still raised students' awareness of how AI impacts daily life.

REFLECTION QUESTIONS

- *What AI topic could you discuss with your students this week?*
- *How could you use AI in your next class to spark critical thinking about AI output?*
- *Without access to AI, what AI-related discussion fits your curriculum?*

2 INCORPORATE OPPORTUNITIES FOR HUMAN INTERACTION IN ASSIGNMENT DESIGN

A good way to encourage full transparency is to provide guidance for appropriate and inappropriate AI use at different stages within a specific assignment. To start, we should first ask ourselves "would AI fit into this assignment?" If it doesn't fit, then AI shouldn't be integrated. If there is a place for AI, however, we should make that clear to students. During the process, we should also regularly ask students to think about what uses of AI support their learning and remind them that AI doesn't always need to have a place in the learning process.

One way to build human interaction into assignments is to include opportunities for discussion and meaning-making throughout the learning process. Let's consider a research paper as an example. When students choose a topic, they could share their ideas in small groups for feedback. One possible use of AI at this stage is prompting an AI tool for research topics or refined research questions. If students write an annotated bibliography, they could give short presentations in class to discuss their findings. Students have also used AI to compare their summaries with an AI-generated summary of the same article, looking for similarities and differences. After the first draft, students could engage in peer review to discuss their papers and talk through their ideas; AI could be used to suggest counterarguments. In later stages, students could use AI for final grammar and style checks. Integrating human interaction throughout the assignment can not only enhance learning but also foster a sense of community among students in which they talk about their work and give each other feedback.

REFLECTION QUESTIONS

- *What AI topic could you discuss with your students this week?*
- *How could you use AI in your next class to spark critical thinking about AI output?*
- *Without access to AI, what AI-related discussion fits your curriculum?*

3 GATHER AND LISTEN TO STUDENT FEEDBACK WHILE INTEGRATING AI

We enjoy experimenting with new AI tools as we plan for class and create teaching materials. We have found that with AI, we can be even more creative and find new ways of teaching old topics. For instance, we have regularly taught students how to generate a hook for an introduction and prepare for impromptu speaking. Last year, we experimented with AI-generated images for similar activities in our listening and speaking classes (Kostka & Toncelli, 2024). Getting students' feedback on activities has always been a good practice, but we'd argue that it is even more important when we use AI with them. Their feedback helps us understand their attitudes towards AI so we can refine our teaching approaches and ensure that humans drive AI use and not the reverse.

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Getting feedback doesn't have to take much class time though. One simple way to ask students what they think is to give them an exit slip, which is a short form that teachers can use as a formative assessment or a means for student reflection (Mowreader, 2023). Weekly exit slips can provide key information about student learning, offer an opportunity for formative assessment, and allow students to reflect on what they learned during the week. When using AI in class activities, we have asked: Did you find this activity useful, and why? What did you notice about our use of AI this week? Asking questions about what's happening in our classes is an excellent way to remain curious about the impact of teaching and learning and find new teaching ideas to further explore. Students also appreciate having a space to share their opinions about class work, and they have given us critical insights about how and why AI could be helpful to their learning. They know that their opinions are valued and that their voices are heard, both of which in turn can create an inclusive classroom environment.

REFLECTION QUESTIONS

- *What AI-related question will you ask students this week?*
- *How would you gather student feedback on AI use in your next class?*
- *How could you use student feedback to improve AI integration?*

EMPOWER STUDENTS TO USE *THEIR* VOICE 4

Building students' confidence to be themselves and use their voice is a critical element of teaching, and it's even more important in the age of AI. We have heard our students say things like "AI can write it [a sentence or paragraph] better than me." They use tools such as Grammarly and ChatGPT to "fix their mistakes" and help them "sound better." Many students weren't confident in their English language skills before GenAI became popular, and AI can easily blur the line between helping and hindering their voice and originality. We often think about how we can help students understand that their (human) written and spoken voice is what we want to hear most!

To help our students understand what AI voice sounds like, we asked a former student to respond to mock interview questions. We then recorded his answers. He had to answer each question on his own first and then answer the same question with the help of ChatGPT. He did not know why and was not given any direction for acting in any particular way. We then showed these videos to students and asked them to compare and contrast the two versions, considering non-verbal delivery skills (e.g., eye contact, facial expressions), vocal expression (e.g., intonation), content, organization, and fluency. Students always prefer the version in which the student answers questions naturally and his personality shines through. They have also said that they would never hire the student who reads ChatGPT-generated answers in an interview! We have found that this activity is a powerful way to show students that their own voices and ideas are much more preferred than overly AI-generated texts.

REFLECTION QUESTIONS

- *How can you show students their voice matters more than "perfect" AI output?*
- *What will you do this week to encourage students to share their unique ideas?*
- *How can you boost students' confidence in their voice in their assignments?*

When a new technology or tool becomes available, teachers (and students) often feel pressure to use it all the time and for all tasks. We have noticed this about AI too. It's hard to talk to fellow educators without AI being part of the conversation. Enthusiasm is good, and it's fun to explore how AI can spark innovation. However, we should be careful about using AI, or any technology, for the sake of using it.

It's important to remember that AI is a tool that is not useful for all tasks. We need a balanced approach to using AI where we leverage its capabilities to enhance teaching while protecting our privacy and minimizing risks. We also need to make sure that the human elements of teaching don't get lost in the AI frenzy. What we know about our curricula, student population, learning objectives, and teaching practices must still guide us as we explore uses of AI and integrate it into teaching. If we consider AI in this way, then we can think about how it can enhance what we're already doing well while we innovate and keep up with an increasingly AI-rich world.

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AI COMPETENCY FRAMEWORKS
for Students and Teachers

unesco   **Education 2030**

As AI reshapes education, teachers and students need new skills to thrive in an AI-driven world. UNESCO's AI Competency Framework for Teachers defines the essential knowledge and values educators need, while the AI Competency Framework for Students supports the integration of AI learning into school curricula. Together, these guides help build future-ready, AI-literate classrooms.

The **UNESCO AI Competency Framework for Teachers** defines the knowledge, skills, and outlines 15 competencies across five dimensions:

- Human-centred mindset
- Ethics of AI
- AI foundations and applications
- AI pedagogy
- AI for professional learning.

These competencies are categorized into three progression levels: Acquire, Deepen, and Create

This tool guides the development of national AI competency frameworks and provides strategies for teachers to support their professional growth.

The **UNESCO AI Competency Framework for Students** aims to help educators in this integration, outlining 12 competencies across four dimensions:

- A human-centred mindset
- Ethics of AI
- AI techniques and applications
- AI system design

These competencies span three progression levels: Understand, Apply, and Create

The framework details curricular goals and domain-specific pedagogical methodologies.
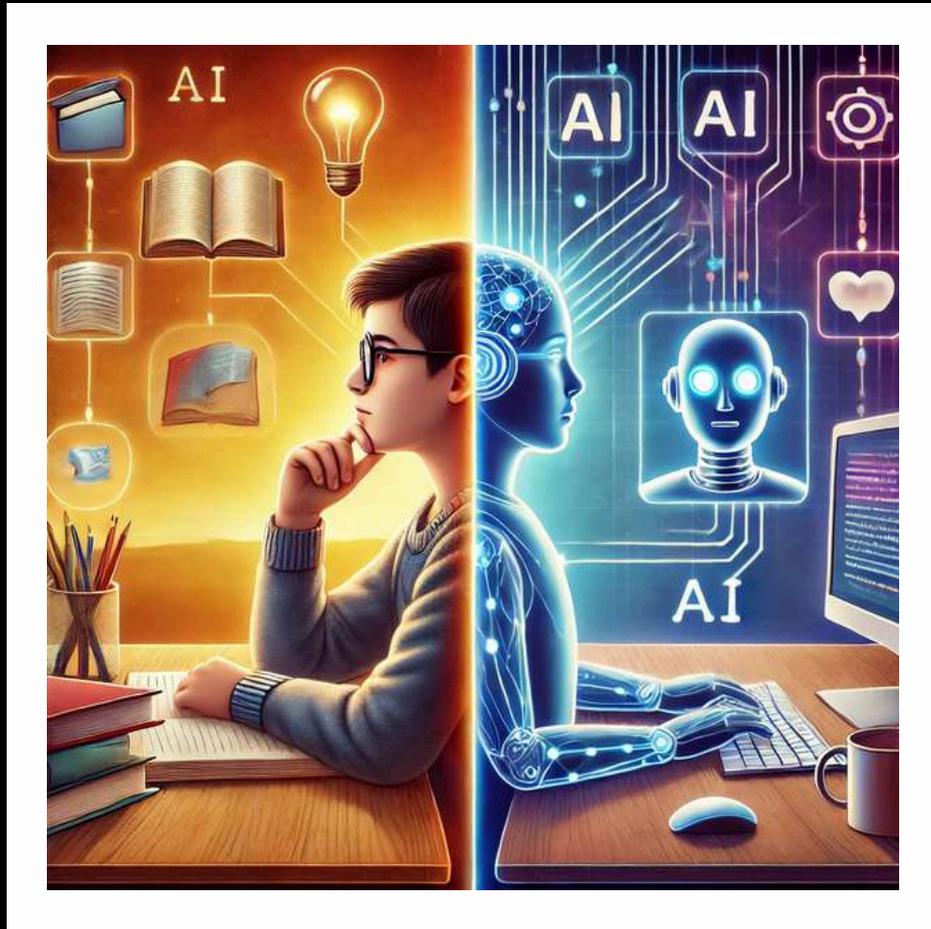
THE AI BALANCING ACT

FOSTERING STUDENT GROWTH OR FUELING DEPENDENCY?

Dr. Robert Stroud

It's pretty clear to all of us by now that artificial intelligence (AI) has changed our world. A lot. I mean it's everywhere—helping us write emails, plan trips, even decide what to watch next on streaming platforms. It's no surprise, then, that educators have been bringing AI into classrooms. But here's the thing:
Just because AI can do something doesn't mean it should.

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The same could be said about the internet and smartphones. Think about it—just a couple of decades ago, we had to memorize phone numbers, ask for directions, and actually dig through books for research. Now, with a few taps on a screen, we have instant answers, endless distractions, and an overwhelming flood of information at our fingertips. It's transformed the way we think, work, and communicate, but not always for the better. Attention spans have shortened, deep thinking has taken a hit, and the ability to sit with a problem and truly wrestle with it is fading fast. So, if we've already seen technology reshape our brains at breakneck speed, shouldn't we be asking tougher questions about what AI will do—especially in the classroom?

WHAT SHOULD WE BE asking about AI?

In terms of AI, there's one big question us teachers (and perhaps parents) should all be asking: *Is AI helping our students grow?* By "grow," I don't just mean passing tests or memorizing facts. I'm talking about the kind of growth that prepares young people for a lifetime of critical thinking, independence, and creativity. Or are we running the risk of raising a generation that's overly reliant on technology for every little thing?

This isn't an easy question to answer, and the stakes are high. Once AI becomes a classroom staple, there may be no turning back. So, before we get swept away by the excitement of AI's capabilities, let's take a step back and explore: Is AI going to empower students, or is it going to hold them back?

WILL AI HELP OUR students grow?

Let's start with the good news: AI has plenty of potential to make learning more effective, engaging, and tailored to each individual. Remember the days when everyone in class learned the same material at the same speed, whether they were ahead or behind? AI flips that model on its head.

One of AI's superpowers is its ability to personalize education. Of course, when students can use AI tools regularly—and thoughtfully—it can enhance cognitive growth. Imagine a tool that knows exactly where a student is struggling and offers tailored explanations or exercises to help them grasp tough concepts. No one gets left behind, and advanced students can move at their own pace. That's pretty amazing, right?

And it's not just about catching up or moving ahead; it's also about creativity. AI has been shown to help our students to experiment with ideas in ways that were never possible before because of the speed and depth of varied information it provides (Chawla et al., 2024). Think about it: instead of worrying about whether they're following the "rules," students can use AI to explore new ways of solving problems or presenting their work. This kind of freedom can boost creativity and confidence.

But what about critical thinking? Some worry that AI spoon-feeds answers, making students less likely to engage deeply with the material. Research offers a counterargument. AI has been found to actually spark deeper engagement by presenting students with complex scenarios or conflicting viewpoints that require analysis (Xu et al., 2024). So instead of making things easier, AI could prompt students to think harder. AI might be able to reduce cognitive load for our students by handling the boring stuff—like retrieving information or summarizing texts (Bai et al., 2023). With those tasks out of the way, students can focus on higher-order thinking skills like evaluating evidence, forming arguments, or connecting ideas.

It's exciting to imagine classrooms where students grow not just academically but also intellectually and creatively. But that depends on how AI is used. If it's integrated thoughtfully, it can truly transform education for the better.

WILL AI MAKE OUR STUDENTS too dependent?

Of course, there's a flip side to this coin. While AI can be a powerful ally in education, it's not without risks—and dependency is one of the biggest ones.

Picture this: a student sits down to write an essay. Instead of brainstorming ideas or outlining their thoughts, they let AI handle everything. The result? They've got a polished essay but haven't exercised their own creativity or critical thinking skills. Over time, this kind of reliance can lead to "inert thinking," (Ye et al., 2024). Students stop applying their knowledge and struggle to think outside the box. Scary, right? This problem could become so severe that some schools might decide to ban AI altogether. Perhaps this is something you have already seen happen yourself. While banning AI might seem extreme, it underscores a real concern: dependency can undermine the core purpose of education, which is to empower students to think and learn independently.

The ease of AI can also discourage effort. When answers are just a click away, our students may become less motivated to tackle challenging problems on their own. And let's be honest—what happens to resilience and perseverance when the "hard work" gets outsourced to AI? It will most likely disappear, which is something we never want to see happen as teachers.

Such an easy process for students might lead to another huge problem in learning: addiction. If students get too used to relying on AI, they might struggle to function without it. It becomes a crutch—a confidence-killer that limits their ability to adapt to new or unfamiliar situations.

So, where does this leave us? Dependency on AI doesn't just weaken problem-solving skills. It can erode motivation, creativity, and the ability to take ownership of learning. If we're not careful, AI might become more of a barrier than a bridge to growth.

SO, WHAT SHOULD WE DO as teachers?

So, what's the answer? Should we ban AI from the classroom entirely? Not necessarily. The goal isn't to avoid AI; it's to use it wisely. As educators, our job is to make sure AI serves as a tool for empowerment—not dependency.

One way to do this is by focusing on student engagement. I recently created a checklist (Stroud, 2024) to help teachers evaluate how AI is influencing learning, and it's worth exploring. The checklist gives us a really simple way to reflect on AI in our classes so that we don't just get sucked into the hype of it all, but think critically about it's actual influence on our students. Let's break it down in terms of five common dimensions of classroom engagement:

1 Behavioral engagement *(what they are DOING in class)*

Take a step back and observe. Are your students completing more classwork thanks to AI, or are they using it as a shortcut? Are they actively participating or passively relying on the tool?

2 Emotional engagement *(their LOVE for learning)*

How do your students feel about learning with AI? Are they excited and motivated, or does the technology leave them stressed or indifferent? You might want to ask them directly—what do they enjoy about using AI, and what frustrates them?

3 Social engagement *(how they are INTERACTING with others)*

This one's important. Are students still interacting with their peers and teachers, or has AI taken over the conversation? Human connection is a big part of learning, and losing that could have long-term consequences. If AI is disrupting social engagement, think about ways to limit its use or encourage collaborative activities.

4 Cognitive engagement
(how DEEPLY they are thinking)

Are your students thinking more deeply about their classwork, or does AI make them passive consumers of information? If they're just skimming the surface, it might be time to rethink how AI is being used. Encourage deeper engagement by asking questions that require analysis and reflection.

5 Agentic engagement
(how PROACTIVE they are being)

Finally, consider whether AI is helping students take initiative. Are they using the tool to explore ideas independently, or are they relying on it to answer every question for them? To promote autonomy, you could introduce AI after students have already brainstormed or debated ideas without it.

Ultimately, it's about striking the right balance. AI can be a valuable resource, but it shouldn't replace traditional learning methods or human interaction. By using AI thoughtfully, we can create classrooms that foster independence, creativity, and critical thinking.

To get more specific details and examples for each of the dimensions discussed above, the author strongly recommends reading the full article (Stroud, 2024) and try using the checklist with your own students.

LET'S THINK MORE ABOUT THINKING

AI has the potential to transform education—but only if we're intentional about how it's used. Before we embrace AI fully, we need to ask ourselves tough questions: Is this helping my students grow? Are they learning to think critically, solve problems, and take ownership of their education? Or is AI making them overly dependent and less motivated?

As educators, parents, and policymakers, it's up to us to shape the future of AI in the classroom. Let's make sure we're using this powerful tool to empower our students—not hold them back

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**Dr. Robert Stroud,** a professor at Hosei University, Japan, specializes in classroom engagement and integrating technology into English language teaching. His recent research explores AI's impact on student interactions and foreign language anxiety. Founder of *The University Grapevine* and co-author of the *SMART Communication* textbook series, he connects educators worldwide about practical teaching ideas.

IGNITING CURIOSITY
EMPOWERING STUDENTS WITH AI LITERACY

Dr. Jess Mendoza
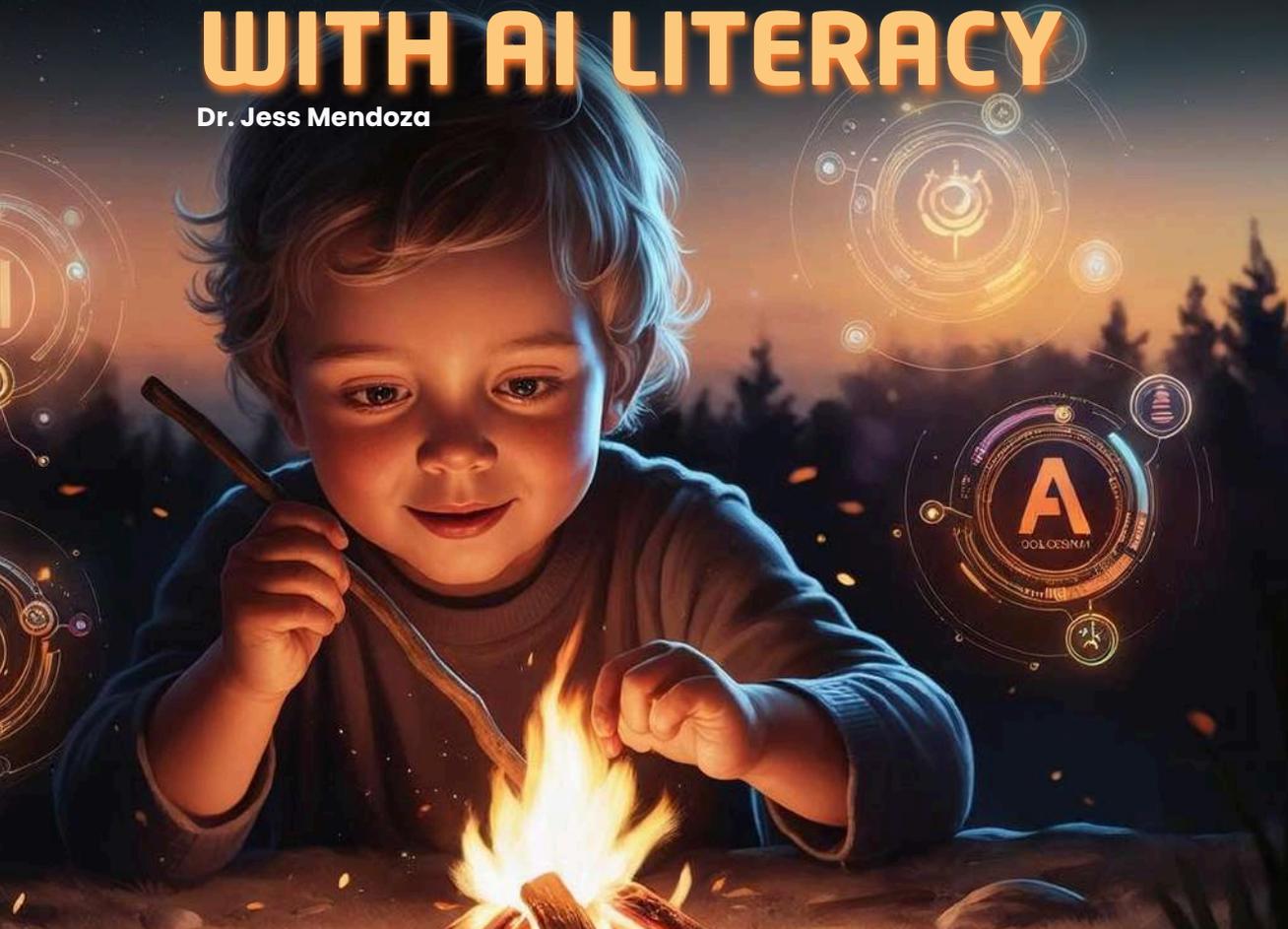
Think back to when you were a child. Do you remember the first time you saw fire? Maybe someone warned you to stay away. Then, perhaps you saw that same adult use fire to cook dinner or warm the house. Over time, you learned that fire can build community, creativity, and comfort. But it can also cause destruction if left unsupervised.

AI is kind of like fire. It has incredible potential to improve our lives but also carries risks we must understand. As educators, we have the opportunity—and responsibility—to teach students how to use this powerful tool with intention and care.

Dr. Jess Mendoza is a Cognitive Psychologist turned UX Researcher and AI & Human Experience Specialist. With 10+ years of exploring how technology shapes our minds and behaviors, she bridges science and empathy to make AI literacy accessible and inclusive. Jess is passionate about helping others thrive—through inclusive design, psychological safety, and a growth mindset. A lifelong learner, she's constantly exploring new ideas and building human-centered communities. Outside of work, she enjoys painting, reading, nature, and quality time with loved ones. Connect with Dr. Jess Mendoza **here**.

Access to technology remains uneven across the globe. While 91% of the world had access to electricity in 2021 (International Energy Agency, n.d.), only 67.9% had internet access as of early 2025 (DataReportal, 2025). These gaps highlight the need for equitable AI literacy for every learner.

How might we use AI tools to spark curiosity, creativity, and critical thinking while also teaching responsibility and compassion?

Investing in the present to shape the future

Learning about AI today means students will be better prepared for tomorrow's jobs. According to the U.S. Bureau of Labor Statistics (2023), higher education levels correlate with lower unemployment and higher earnings. In 2023, 88% of adults aged 25–34 with a bachelor's degree were employed, compared to just 60% of those without a high school diploma (NCES, 2024).

This gap underscores the need to empower students to become creators of technology—not merely consumers. AI literacy helps bridge economic divides and opens pathways to new careers (Luckin et al., 2016).

By guiding students to understand AI, we reduce the risk of them being left behind in a rapidly evolving world. Students who understand how AI works can build it, critique it, and use it ethically. Without this knowledge, students risk becoming targets of misinformation or manipulation. With it, they become architects of their own futures.

AI literacy exposes learners to a powerful set of tools that can drive agency, empowerment, and equity in their own learning paths.

The desire to learn should not rest solely on the shoulders of students. Meet them where they are. Recognize how their learning styles evolve. Meet parents where they are in understanding how their children are responding to these learnings so they can support responsible behaviors beyond the classroom

Strive to empower thought, not to replace the need for it.

Empowerment through co-ownership

Students light up when they realize they can build something. What if we extended that moment to AI.

Instead of focusing solely on using AI tools, invite students to question, critique, and create with them. Research suggests that Triadic Dialogue (or IRF/IRE) is an effective method for engaging students as active participants in their own learning (Nassaji & Wells, 2000).

The Triadic Dialogue Model
- Initiation: The educator poses a question.
- Response: Students reply.
- Follow-up/Evaluation: The educator guides deeper reflection or understanding.

When applied with intention, the triadic dialogue fosters inclusive and productive discussions. Pair it with relevant, student-centered themes to create lasting connections to the concepts.

Sample prompts for educators:
- *Interesting point. Can you say more about why you think that?*
- *How does that connect to what we read yesterday?*
- *Who agrees or disagrees, and why?*
- *Let's build on that idea together.*

TRIADIC DIALOGUE MODEL

Initiation
Pose a question

Follow up/ Evaluation
For deeper reflection or understanding
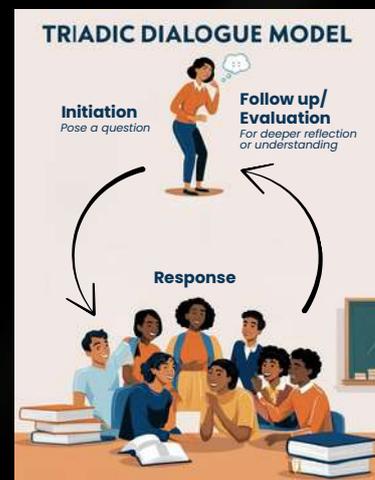
Response

Recommended activities to try out immediately

While conversations are a vital starting point for teaching AI literacy, talk alone isn't enough. To truly help students develop a deep, responsible understanding of AI. To spark lasting curiosity, educators must offer hands-on, reflective, and creative learning experiences that go beyond traditional discussions.

These kinds of activities make abstract ideas tangible, foster personal connections, and empower students to explore, experiment, and even fail safely, which is key for building critical thinking and digital resilience. Blow are some activities for teachers to try out.

Design varied discussion structures

Purpose: Use triadic dialogue beyond teacher-student interactions.

Think-Pair-Share: Students individually reflect and write down their thoughts on the question (2–3 minutes).

Example prompt: "Describe a time when you saw or heard of a technology that made an unfair assumption about a person or group."

Facilitate Student-led Discussions: Students share their thoughts with a partner and compare ideas (3–5 minutes) and then encourage them to share as a group.

- *Scaffold Tip:* Provide a sentence starter for younger students: "I think AI can be biased because…"

- *Host Socratic Seminars:* Foster deep dialogue through open-ended questions and evidence-based discussion.

Example Text/Media: Students read a short article or watch a video about AI in facial recognition or predictive policing.

Seminar Question:

Does the use of AI in surveillance improve safety or threaten privacy?

Format:
- Inner circle: Discusses the question using evidence from the learning material.
- Outer circle: Observes and takes notes (can later switch roles).

Students are encouraged to respond to peers using phrases like:
"I agree with _ _ _ because…"
"Can you clarify what you meant by…"
"I want to challenge that idea by pointing to…"

Prep Tip: Provide guiding questions ahead of time and model civil disagreement for younger students. Adjust these activities to fit the developmental stages of your classroom's student composition.

Why it works: *This activity builds critical thinking. Students learn to question, evaluate, and expand on ideas rather than just give surface-level responses. It also helps them connect learning to real life. Moreover, it empowers student voices which helps them feel ownership over their learning journey.*

Memory mapping – AI vs. human learning

Purpose: To compare how people learn with how machines learn.

How it works
- Students draw or describe how they learn a new skill (e.g., riding a bike, memorizing a poem).
- Then compare this to how AI learns from data and patterns.
- Discuss the similarities, differences, and limits of AI learning.

Why it works: *This activity builds awareness of what makes human thinking unique— and what AI can (or can't) replicate.*

Ethical dilemmas think-aloud

Purpose: To teach students how to reason through real-world questions about AI.

How it works
- Present a question: Should schools use facial recognition for attendance?
- Students first journal their thoughts.
- Then, they share ideas in pairs.
- After discussion, they reflect on what changed in their thinking.

Why it works: This encourages metacognition, also known as "thinking about your thinking" a skill required for problem solving through complexity. Students see how their thinking evolves and learn to respectfully consider different views. It helps them understand what they know, how well they know it, and what strategies they need to proceed with solving a problem. It also encourages learning to be a respectful practice of considering different views.

Prompt design challenge

Purpose: To explore how language shapes AI responses.

How it works
- Students write a question or story prompt for an AI tool (or act out what it might say).
- Test or role-play the response.
- Reflect: How did wording change the output? Was the result fair or clear?

Why it works: This helps students understand the power of clear, intentional communication when interacting with AI.

"You be the algorithm"

Purpose: To show how bias enters AI systems through training data.

How it works
- One student plays the role of the "algorithm."
- Another gives input (e.g., "This person is smiling").
- The "algorithm" makes an output (e.g., "They must be happy").
- Midway, change the rules (e.g., now assume only certain groups are happy).
- Discussion: Talk about what changed, what felt unfair, and how real-world AI might work similarly.

Why it works: This unplugged role-play lets students experience how bias can sneak into AI systems—no computers needed.

CALL TO ACTION: BUILD YOUR OWN CONFIDENCE

Empowering students to navigate the world of AI begins with educators who are confident, curious, and equipped to guide. As an educator, your role is not to be an AI expert but to model lifelong learning and foster an environment where students feel safe to explore, question, and create. This call to action is about taking tangible steps to build your own confidence while inspiring your students to engage with AI responsibly.

1 Leverage free resources and communities

The journey to AI literacy doesn't require a large budget or advanced technical skills. Numerous organizations offer free, educator-focused resources tailored to various grade levels and subject areas. Join communities like:

- AI4ALL Offers open-source curricula and professional development to make AI education accessible, particularly for underrepresented groups. Their programs include hands-on activities and case studies that connect AI to real-world issues.

- ISTE's AI Explorations Program Provides practical, standards-aligned resources to integrate AI concepts into existing curricula, from math to social studies. Their workshops help educators demystify AI through collaborative learning.

- Microsoft Learn for Educators Offers free modules on AI fundamentals, including lesson plans and activities that can be adapted for K–12 and higher education.

AI4ALL

ISTE's AI Exploration Program

Microsoft Learn for Educators

2 Foster peer collaboration

Building confidence in AI literacy is easier when you're not doing it alone. Host low-pressure, informal sessions with fellow educators to share ideas. These gatherings build a culture of curiosity and reduce the intimidation factor of teaching a rapidly evolving subject like AI. Some ideas include:

- Host a "lunch and learn" where educators experiment with a tool like Google's Teachable Machine or Scratch AI extensions.

- Create a monthly "AI Idea Swap" where teachers share one AI-related activity they've tried, such as a prompt design challenge or an ethical dilemma discussion.

3 Advocate for inclusivity and equity

AI literacy is a critical component of digital equity. Without intentional inclusion, marginalized students risk being excluded from the opportunities AI offers. Be a driving force in your school or district by:

- Embedding AI literacy in STEM initiatives: Advocate for AI to be part of science, technology, engineering, and math discussions, ensuring it's not treated as an "advanced" topic reserved for select students.

- Seeking funding and partnerships: Apply for local grants to bring AI tools or training to underserved classrooms. Partner with local libraries, nonprofits, or tech companies to provide access to devices or guest speakers.

4 Make AI learning personal

Your growth as an educator is as important as your students'. Approach AI with the same curiosity you encourage in your classroom. Start small: try a free online course or experiment with an AI tool like ChatGPT to generate writing prompts for your class. Reflect on what excites or challenges you about AI, and share those insights with students to model vulnerability and growth. By embracing your role as a learner, you create a classroom culture where students feel empowered to take risks and explore.

NO TECH? NO PROBLEM

K–12 low tech strategies

Low-tech activities are ideal for classrooms with limited resources or for younger learners who benefit from hands-on, tactile experiences. These approaches make abstract AI concepts concrete and engaging without requiring computers or internet access.

- **Role-playing and storytelling:** Storytelling helps connect AI to human experiences. For example, tell a story about a town using AI to allocate resources. Students play roles (e.g., citizen, programmer) and debate fairness.

- **Paper-based activities:** Students sort a "dataset" (e.g., job applicants) by rules, then uncover biases (e.g., gender-based names), making data processing tangible and highlights ethical design.Why It Works: This activity makes data processing tangible and highlights the importance of ethical design.

Hello Ruby   *MIT AI + Ethics Curriculum*

Access to technology varies widely, but a lack of devices or internet shouldn't be a barrier to teaching AI literacy. AI concepts like bias, ethics, and decision-making can be explored through creative, low-tech activities that spark curiosity and critical thinking. For classrooms with access to technology, high-tech tools can enhance learning, but the core principles of AI education remain accessible to all. Below are expanded strategies and resources for both low-tech and high-tech environments, ensuring every educator can bring AI literacy to their students.

K–12 high tech strategies

Free tools deepen AI exploration in tech-enabled classrooms, fostering creativity and technical skills.

- **Scratch + AI Extensions:** Students create chatbots or image classifiers. For example, students design an AI that recommends movies based on inputs.

- **Google's Teachable Machine:** Train AI models with a webcam (e.g., recognize gestures), for example, classify images (e.g., cats vs. dogs) and analyze errors.

College level strategies

Advanced tools align with students' academic interests, encouraging hands-on projects that connect AI to students' real-world interests.

- **Hugging Face Spaces:** Free AI models for text or image tasks. An sample project: Build a tool to analyze news headlines' emotional tone.

- **OpenAI APIs:** Free basic access for educational projects. A sample project: Create a chatbot for a field (e.g., environmental science) and critique its biases.

Challenge students to carry these dialogues beyond the context of the classroom and empower parents to encourage these dialogues. Normalize asking questions as a way to challenge their thinking and seek clarity. Invite students to engage their families or friends in these discussions, and encourage them to bring shared experiences back into the classroom. Don't rely on external systems, take action where and when you can. Empower learners to own their learning journey by making it a personalized mission towards success. Encourage them to see that they have the ability to be the change they want to see in the world.

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WHAT STANCE DO WE TAKE IN RELATION TO THE USE OF AI IN THE CLASSROOM?

Aslom Ullah

There is a significant amount of press, discussion, and pedagogical debate surrounding the relationship between AI and education. Unfortunately, not all of it is positive, and some of it is quite critical. Two years ago, the highly reputable news outlet The Harvard Independent published the headline, 'ChatGPT and the Death of Education.' In it, the journalist comments on the dangers posed by this 'superhuman' technology, stating that 'the question then becomes how to properly adjust our lives to technology, and utilize it in a way that improves, rather than delegitimizes, the lives of the common good' (Carlin, 2023). It is indeed worrying that graduate-level students can submit work generated by ChatGPT, edited with AI paraphrasing tools like Quillbot, and receive certificates for it undetected.

> *What kind of conversations do we have with our students about the use of AI? Do we take a simple, immediate reaction and issue a complete ban on its use in all forms, or is a more detailed approach required?*

This raises the question: What kind of conversations do we have with our students about the use of AI? Do we take a simple, immediate reaction and issue a complete ban on its use in all forms, or is a more detailed approach required? The integrity of all homework at all educational levels is now in question. Therefore, we need a clear and coherent strategy for the classroom culture regarding AI use. Without such a strategy, even primary school children in their formative years might use AI to complete assignments meant to demonstrate their understanding of basic literacy, creating a false impression of their skills.

A REVISED OUTLOOK

What is required, then, is a revised perspective on how to appropriately use AI in the classroom. This involves examining how we, as educators, can train our students to use AI tools and websites as assistive tools. Effective training requires us to model the correct use of AI by using AI-assisted tools in our classrooms and discussing this use with our students.

Teachers can use a variety of AI-powered tools to design customized materials and learning paths for students, while students can use classroom resources to develop their own revision materials. It is crucial that teachers maintain a classroom culture in which they control over any AI-assisted tools used, including ChatGPT, and do not become subordinate to them. One effective way to do this is by highlighting the shortcomings of AI. For instance, when AI is asked to produce an A-grade response to an exam question, the answer will have flaws. Teachers should show these flaws to students and have the class work together to correct and improve the AI-generated answer. This helps students understand that AI-generated material should be used as a starting point, not an end point.

By using AI in an assistive manner and maintaining control, teachers and students can access numerous possibilities. As Luckin and Holmes (2016) argue, 'AIEd is [...] a powerful tool to open up what is sometimes called 'the black box of learning,' giving us a deeper and more detailed understanding of how learning actually happens.' AI introduces a new 'black box,' a term first used by Dylan Williams, which AI can help us understand, opening up new possibilities in our classrooms.

In their pioneering research on the implications of AI in education, Ning et al. (2024) introduce the AI TPACK framework, which emphasizes that teachers must navigate between 'disciplinary knowledge,' 'pedagogical knowledge,' and 'artificial intelligence.' This ensures that AI is used alongside existing pedagogical practices, rather than replacing them. When used correctly, AI-assisted tools and platforms can create personalized learning pathways for students and help teachers design engaging lessons.

It is crucial that teachers maintain a classroom culture in which they control over any AI-assisted tools used, including ChatGPT, and do not become subordinate to them.

A PERSONALIZED PATHWAY

Harry (2023) notes that 'artificial intelligence (AI) has the potential to revolutionize the way we learn and teach, making it more personalized.' However, this potential can only be realized if school administrators support teachers with effective policies, training, and practices for using AI-assisted tools in the classroom. Schools should invest time in familiarizing teachers with available AI-assisted tools, providing external training if necessary, to encourage teacher support.

In today's world, there is a pressing need to personalize learning. Some educators have already begun to do this; according to Srinivasa et al. (2022), 'curriculum and content have been customized and personalized to meet students' needs, promote uptake and retention, and ultimately improve students' learning experience' in certain schools 'as a result of machine learning and adaptability.' More educators worldwide need to adopt such innovative teaching methods. AI should not be avoided; when used correctly as an assistive tool, it can help teachers regain the one thing valuable of a teacher's life: TIME.

Teachers in both primary and secondary schools are often overburdened by workload demands, especially when creating revision materials or classroom resources. In some cases, a teacher may need a resource on a topic produced quickly and effectively. **Teacherbot**, an AI-powered platform, allows educators to generate modifiable resources with a single click. Developed by Katie Hasselstrom while on maternity leave, this application has produced over 40,000 resources for 15,000 instructors worldwide, who have adapted them for their students.

Gradescope is one example of an accessible AI-assisted tool. It can grade student work and provide diagnostic analysis of areas where students need help. After a student completes an assessment, the teacher can use this information to design a personalized learning pathway and inform one-on-one feedback. Gradescope and similar tools can quickly identify a student's areas of need, allowing teachers to adapt their instructional materials in response to students' attainment. This represents a significant step toward personalized education.

ChatGPT can also be used to generate model examples for students, saving teachers time otherwise spent creating these examples themselves. For instance, if students are tasked with writing a letter as Oliver Twist, complaining about workhouse conditions, ChatGPT can instantly provide a model answer based on the given success criteria. Students can then examine how the model meets those criteria.

Additionally, this assistive tool can also be used to break down learning objectives. New teachers may struggle to create tiered objectives for different levels of challenge. By inputting a single learning objective, ChatGPT can quickly generate three or four tiered objectives based on Bloom's Taxonomy or other skill frameworks.

Students can also use AI-assisted tools like **Jungle AI** to independently create their own revision materials based on classroom resources. Students with special educational needs can use AI-powered text-to-speech tools like **Cockatoo** and speech-to-text applications like **Smart Noter AI** to access and demonstrate their understanding of content.
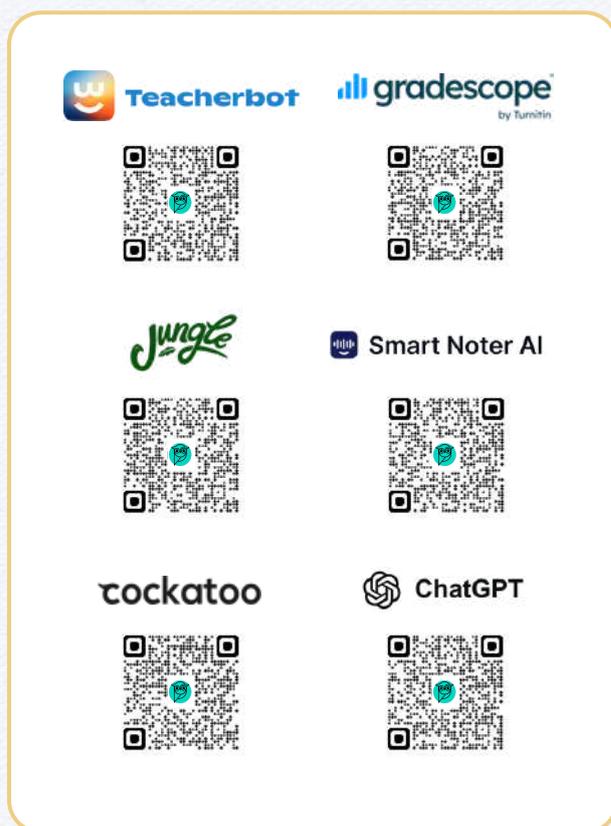
CREATING A CULTURE OF RESPONSIBLE USE

Ultimately, it all depends on how students and teachers view AI and the culture developed in the classroom around its use. As educators, we must foster a culture that avoids hastily banning AI outright. Instead, we should promote its responsible and ethical use.

There is a huge responsibility on the teacher to create that culture of how to use AI appropriately, ethically and responsibly. This begins with how we use AI in our classrooms and guide students through that use. To apply AI as an assistive tool, educators must first educate themselves and then their students. This will require teachers to invest time in learning how to use AI-assisted tools appropriately, similar to the time spent learning school-based digital systems. In the long run, this investment will save teachers time by assisting with tasks like marking and lesson design, allowing them to focus on more valuable tasks, such as providing one-to-one feedback to students. The potential applications of AI are numerous and exciting.

> *Ultimately, it all depends on how students and teachers view AI and the culture developed in the classroom around its use.*

AN ETHICAL AND RESPONSIBLE APPROACH

AI will continue to evolve, so it is crucial for educators to instill in students the importance of using it ethically and responsibly, regardless of the technology's capabilities. This culture begins in the classroom and extends beyond it, so that students apply the same ethical approach to AI outside of school.

Education encompasses more than just subject knowledge and exam preparation. Regardless of our subject or school level, we as educators must cultivate ethically minded students with a sense of digital responsibility. This is now an integral part of our role. If we fail to take a clear stance on AI use and teach students how to approach it ethically, we are failing them. We must prepare them for the future by modeling and teaching how AI can be misused and how it should be used responsibly.

Aslom Ullah is a teacher of English with 15 years of experience. A UK graduate from Queen Mary University of London, he completed his teaching training at the prestigious UCL IOE, and has taught in London and Qatar. He has spoken at the EDI Teaching and Learning Forum, the Educational Experts Conference for World Arena Events, and chaired the Future of Education Summit in Qatar on the impact of artificial intelligence on education.

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Welcome to **Ask the Experts**, the ultimate column dedicated to professional development in the field of education. In this dynamic and ever-evolving field, continuous growth and learning are paramount. In each issue, we explore the most commonly asked topic by interviewing invited experts for their insights, experiences, and strategies.

Education in Harmony **EXCLUSIVE**

When AI Amplifies the Human Spirit

with STACY KRATOCHVIL and CATE TOLNAI

EduVerse: Welcome to our exclusive "Ask the Experts" series, where we delve into pioneering ideas that are reshaping the landscape of education. Today, we are thrilled to bring you an inspiring conversation featuring two dynamic educators from the U.S., **Stacy Kratochvil** and **Cate Tolnai**. With a combined passion for leveraging AI in classrooms and a deep commitment to nurturing human ingenuity, Stacy and Cate are at the forefront of exploring a future where technology and human expertise work in perfect harmony.

Stacy Kratochvil is a teacher, instructional coach, and edtech specialist in the SF Bay Area in CA. She teaches physical education, multilingual learners and serves in various leadership roles including Student Equity Council advisor. Stacy holds a Master's Degree in Education, a CA EdTech Specialist certificate and recently earned certifications in STEAM and AI Leadership. Stacy is passionate about the intersection of AI, education and equity, engaging with a global network of educators via social media. Additionally, she writes a blog for educators through the Krause Center for Innovation where she also facilitates innovative teacher workshops. Outside of work, she balances life with her husband and three children and occasionally asks Alexa for peace and quiet!

Cate Tolnai is a dynamic educational leader and marketing strategist with a passion for equitable, tech-driven learning. With over two decades of experience spanning K-12 and higher education, she has led transformative initiatives in digital learning, AI literacy, and educator development. As Adjunct Faculty at Notre Dame de Namur University and Foothill College, Cate designs and teaches innovative courses and state certificate programs focused on instructional design, digital literacy, and emerging technologies—preparing the next generation of education leaders. A published author and frequent national speaker, she is known for her work in microcredentials, gamification, and competency-based learning. Her approach centers on meaningful tech integration that supports inclusion, creativity, and student engagement. Cate's advanced certifications in Educational Technology, AI Integration, and Marketing Strategy underscore her leadership at the intersection of education and innovation.

EduVerse: In this interview, we unpack Stacy and Cate's four critical components of AI in education: **AI Literacy, AI Fluency, AI Expertise, and AI Innovation.** Their insights—spurred by a shared vision of "AI and Us"—reveal how thoughtful integration of AI can empower educators and students alike, enriching our learning experiences while celebrating the human qualities of empathy, creativity, and community.

1

Stacy, Cate—so excited to have you both here for our EduVerse "Ask the Expert" column! Stacy, I stumbled across your brilliant LinkedIn post about AI literacy and fluency, and Cate, your comment adding expertise and innovation just ignited the conversation. It's a perfect fit for our theme, "AI and Us: The New Harmony in Education." Stacy, let's start with you. Can you share a bit about your background and what first drew you to AI in education?

Thanks so much for having me. I'm Stacy Kratochvil, a teacher, instructional coach and Edtech specialist in the U.S. near San Francisco. I became really curious about AI when ChatGPT first came out in November 2022. I spent a lot of time learning and just about a year ago began posting on LinkedIn and sharing my perspectives on AI in my local community. What hooked me was the duality of generative AI—how it's both a challenge and an opportunity. I saw it as a chance to teach students to think critically, not just about AI outputs but all digital media, really.

2
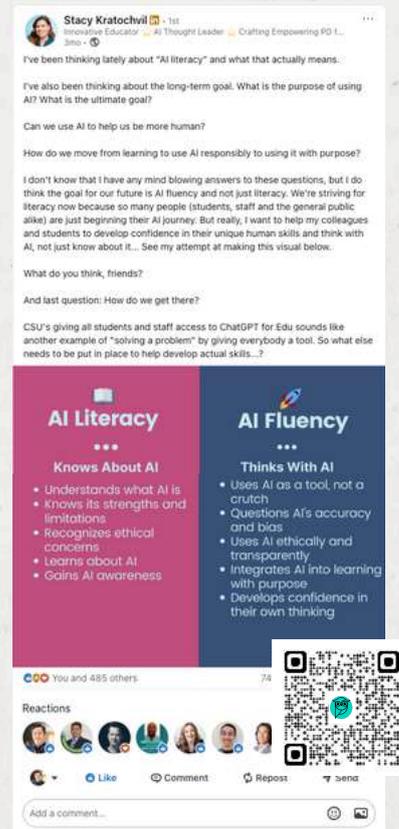
That's such a great starting point, Stacy. Cate, your bio highlights your leadership in education and tech. What pulled you into AI, and what made you jump into Stacy's post with that incredible framework?

Hello! It's always a joy to collaborate and ideate with Stacy. We first connected back in 2021 through the Krause Center for Innovation, and since then, I've watched her fearlessly share her reflections across social media, blogs, and podcasts. I often find myself jumping in with a "yes, and..." because her ideas spark such meaningful dialogue.

When ChatGPT hit the public scene, I was serving as Director of Digital Learning at the Santa Barbara County Education Office. I immediately recognized both the potential impact on students and the need for educators and school leaders to feel confident navigating this emerging space.

That's when I made a decision: the best support I could offer was to be a learner first—and to create space where educators could explore and grow alongside me as professional learners of AI.

3 **I love how your paths converged here. Stacy, your post posed a big question:** *"Can we use AI to help us be more human?"*—**which ties perfectly to our harmony theme. What sparked that idea, and how has it evolved since you hit "post"?**

Well, last summer I became a founding member of the *Human Intelligence Movement.* This group of brilliant educators has been exploring this imperative of developing human intelligence alongside artificial intelligence and sharing all the ways they believe AI can help us become more human - by developing problem solving, communication and collaboration skills, empathy, design thinking, etc... In a world where AI influences the things we see and listen to, it is empowering to think that we can become irreplaceable and even more human by developing our unique skills and talents.

Using AI to reflect deeper, to see different perspectives, to find more effective ways to communicate ideas... I totally believe that AI helps me to be more ME. AI has helped me build better relationships, think through my own ideas, and so much more. Every day I believe more and more that we should all be using AI with such great purpose! Just imagine if you had a life coach helping you be the best version of you, available 24 hours, 7 days a week.

Cate, what are your thoughts about Stacy's big question?

I agree with Stacy's point—AI has pushed me to reflect more deeply and explore innovative directions I hadn't considered before having this kind of digital thought partner. As a full-time freelancer, I've had to reimagine how I collaborate and ideate without the built-in teamwork of an office environment.

AI has become part of that process. It's helped me brainstorm, question, reflect, and create in entirely new ways—especially once I started building Custom GPTs and uploading data into knowledge bases to shape the kind of thought partner I needed.

It may sound counterintuitive to say a machine is helping me refine my interpersonal skills. But when I step back, I realize the AI is really just reflecting my prompts, my thinking, and my style. That's when I truly appreciate the science behind the tool—and the creative, human potential it unlocks at our fingertips.

The 4 components
AI LITERACY, FLUENCY, EXPERTISE, AND INNOVATION

Stages of AI Implementation

AI Literacy — Knows About AI
AI Fluency — Thinks with AI
AI Expertise — Leads with AI
AI Innovation — Reimagines with AI

Stacy Kratochvil & Cate Tolnai, 2025
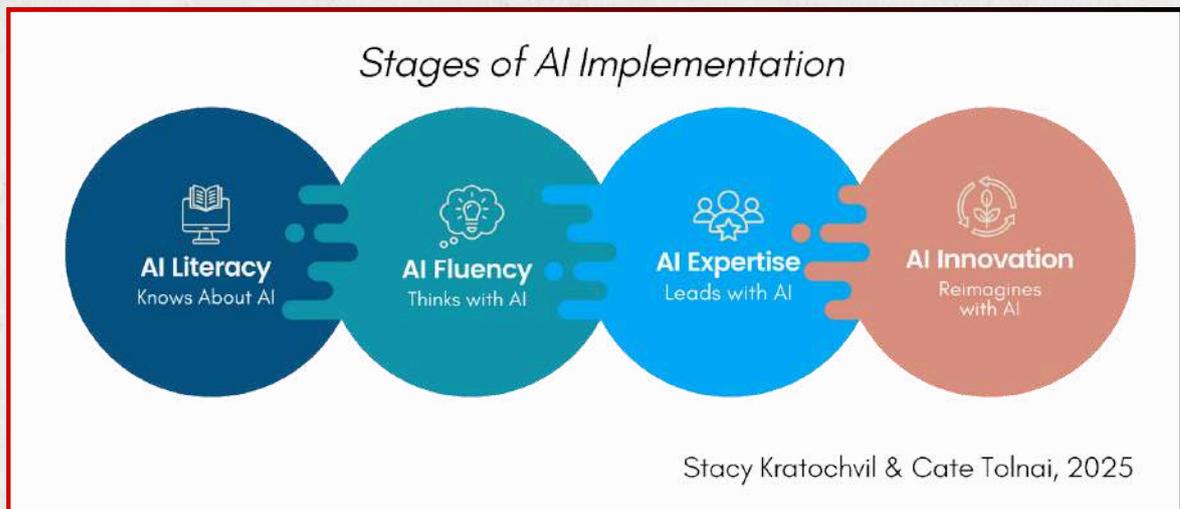
4 Alright, let's look into the four components you've both sketched out—AI Literacy, AI Fluency, AI Expertise, and AI Innovation. It's like a roadmap for living with AI in education! I'm curious—how did you land on these four stages and not others?

It started with me questioning the term "AI literacy." It never really felt like it was "enough." Do I just want my students to be literate at a basic level? Not really! Maybe for younger grades, sure, I would want them to know how AI works and have some understanding of its strengths and limitations. But for older students and certainly adults I feel like we need more. We should be questioning all outputs for both accuracy and bias, using it purposefully, ethically and transparently… My thinking was that AI literacy was "knowing about AI" and someone who "thinks with AI" is AI flue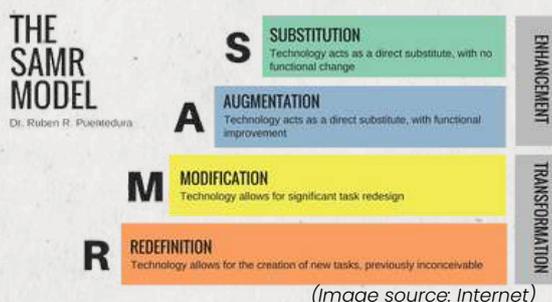nt. Then, Cate's comment on this post brought my original idea to a whole new level when she added two more stages beyond fluency!

Exactly, Stacy. I've been in K–16 education for 22 years, with the past 12 focused on teacher education around technology integration and innovation. Frameworks like SAMR have been foundational to my work. As I reflected more on Stacy's point, I started wondering if there's a level of higher-order thinking with AI – like what happens after we achieve AI fluency? Most educators don't stop at "mission accomplished." Instead, we use that fluency to deepen our understanding of our communities, our identities, and our broader impact. That's where the idea of "AI Expertise" emerged for me—moving beyond just using AI tools to truly understanding their implications.

And once we reach that level of awareness, we're better positioned to design and apply AI solutions thoughtfully and creatively. That's where "AI Innovation" comes in.

THE SAMR MODEL
Dr. Ruben R. Puentedura

S SUBSTITUTION
Technology acts as a direct substitute, with no functional change

A AUGMENTATION
Technology acts as a direct substitute, with functional improvement

ENHANCEMENT

M MODIFICATION
Technology allows for significant task redesign

R REDEFINITION
Technology allows for the creation of new tasks, previously inconceivable

TRANSFORMATION

(Image source: Internet)

5 That progression feels so intuitive. Stacy, let's zoom in on **AI Literacy. What does it mean in today's classrooms, and how can teachers and students build a strong foundation?**

I think a lot of teachers are still concerned with students using AI to replace their thinking, and one way to combat that is to demystify it. If they know how it works and are trained to question AI outputs, students will be a lot less likely to take it as truth or even as being "smarter" than them.

One thing I've learned is that you do not need to get students using the tools right away in order to do this. We can build their awareness and understanding of AI in no-tech ways like having them evaluate text or images the teacher has generated, comparing AI-generated vs. human generated text, improving an AI response, or even discussing human bias, stereotypes and how AI reflects the data it was trained on.

These kinds of no-tech, discussion-based activities make AI literacy accessible for all classrooms, regardless of resources or region. That's the power of approaching AI through a human-centered lens. It opens doors for global impact.

6 That's such a practical way to kick things off. Now, moving to **AI Fluency**—where someone "thinks with AI" strategically. Stacy, how does this build on literacy, and can you share a real-world example?

Fluency is the goal—we pass through literacy to get here. It's about becoming even more critical of the responses we receive, knowing when to use AI and when to NOT use AI, right? Someone who thinks with AI is a lot more strategic about their use. They are confident with their own thinking and use AI with purpose to do things better, not just faster. For teachers, moving beyond surface-level uses like worksheet generation, and instead using AI to reimagine learning experiences that center students' voices and identities. It's about making learning more meaningful and relevant, and aligning our work more closely with our values, standards, and even our school's mission and vision. For example, I've seen teachers use AI to directly support their school's equity goals, like designing lessons that foster student agency.

When someone is AI fluent they don't just know what AI can or cannot do. They question it, push back, go through lots of iterating, and use it to become even more clear with their own thinking. I see this as a much more thoughtful AI mindset.

7 That mindset shift is huge!! Cate, your comment introduces **AI Expertise** as a deeper, strategic application of AI. How would you differentiate AI Expertise from mere fluency in an educational context?

I believe the differentiator between *AI expertise* and *fluency* lies in context. As Stacy mentioned, there's a foundational sense of inquiry involved in fluency. It's more than just consuming AI or replacing current processes with AI tools. Fluency entails actively challenging, iterating on, and deepening your understanding of key concepts.

Expertise takes that further by connecting AI to your community or school's broader context. AI expertise is less about knowing all the content and more about understanding its impact on others—and being able to guide others in meaningful conversations around that impact. An expert doesn't just use AI—they shape how it's used to benefit their community.

8 And then we reach **AI Innovation,** the pinnacle. Cate, how could a teacher or school community use this to boost human creativity or connection, not just efficiency?

When we reach the AI Innovation stage, we're not just using AI—we're shaping what it looks like in our schools and classrooms. That's a powerful place to be. For teachers and school communities, this is the moment to ask: *How can AI help us tell our stories, connect across cultures, or imagine what learning could be—not just make it faster?*

A teacher could invite students to co-design learning experiences using AI—like building interactive exhibits for a community night, developing bilingual AI chatbots that support peer tutoring, or collaborating on multimedia projects that reflect student voice and identity.

At the school level, innovation might look like students leading AI-powered wellness campaigns, or families contributing prompts to generate ideas for culturally responsive events. These aren't just efficiency plays—they're about amplifying voices, surfacing new ideas, and making school feel more human.

Innovation is when we let creativity drive the AI use case—not the other way around. And that opens up real possibilities for connection, joy, and agency

These stages feel like a natural flow. How do they interact in real-world settings, and where do you think most educators are right now on this journey?

This is totally anecdotal, but I think most teachers are still in the AI literacy stage with some early adopters who are fluent.

I agree. Most educators I work with are juggling so many competing priorities that it takes real time and energy to fully grasp the more complex applications of AI. Right now, many teachers and leaders are drawn to tools that are flashy, fun, and promise things like "more time" or "faster workflows." But unfortunately, that's surface-level which doesn't build AI-literate educators. The deeper, crucial conversations—about impact, systems, and data privacy—aren't happening at scale yet. And that's where we need to focus if we want long-term, sustainable integration.

The roles of AI and HUMAN
TO CREATE THE NEW HARMONY

Let's circle back to Stacy's original post about building human skills alongside AI. Stacy, how can AI enhance qualities like empathy or inspiration without overshadowing them?

I have really enjoyed using Gen AI as a reflection tool. When I reflect deeply with my AI thought-partner and it echoes back to me that I am on the right path or doing a great job, it builds my confidence! For example, I've asked ChatGPT to help me unpack moments when I felt stuck, or to amplify my strengths based on my CliftonStrengths profile. It's helped me re-center my purpose, clarify my thinking, and find the right words to communicate my ideas more clearly. AI hasn't replaced reflection. It has made it deeper.

There is also potential for using Gen AI to build skills like empathy. I have asked it to help me see things through an empathetic lens. With the right prompts, it absolutely can. If we prompt with intention we can totally use AI to become better, more caring humans! I have learned so much about this from Dr. Sabba Quidwai. Her work on AI and design thinking is incredible, and I recommend following her on social media. She really breaks down how we can use AI to our human advantage.

That's inspiring! And Cate, with your focus on empowering educators, how do you envision humans and AI working together across these four stages—literacy to innovation—to find that sweet spot in teaching and learning? **11**

Great question! I see humans and AI working best together when educators stay at the center of the process—using AI to extend their creativity, not replace it. Across the four stages—from literacy to innovation—AI becomes a partner: first in understanding, then in applying, personalizing, and finally, co-creating. The sweet spot is when educators feel confident enough to use AI not just to save time, but to design more inclusive, engaging, and meaningful learning experiences. That's when AI really enhances human impact.

> **AI in education is all about people. That means helping educators and students understand how AI might help them think better, not just work faster.**
>
> Stacy Kratochvil

12 **Harmony's all about balance, right? With your experience guiding teachers and learners, how can we make sure AI supports human goals—like building community or sparking critical thinking—rather than driving the agenda itself?**

The most important thing right now to ensure that AI is supporting our goals is to be clear on what those goals are and use AI with intention. We should never use AI just for AI's sake. AI adoption in schools should not begin with tools or even policies. We need to start educating the people in our circles about AI, help them determine what their goals are, and then help them think better or differently in service of those goals.

The best part is that AI is incredibly capable of supporting this work. The challenge is helping young people identify what they value and how to use AI with purpose. I'd love to see a stronger emphasis on developing human skills, values and goals than just AI skills like prompting or iteration. Those are helpful, but they risk missing a much bigger opportunity to deepen human intelligence.

Again, we want everyone, students included, to not just produce faster, but to become more intentional, connected and self-aware. To me, AI fluency is more about unlocking deeper levels of human potential than it is about the tech itself. And AI in education is more about education than it is AI.

Yes, and...

One of the most powerful ways to ensure AI supports our goals is by focusing on intentional prompting. When educators learn how to craft thoughtful, open-ended prompts, they can guide AI to generate ideas that fuel collaboration, deepen inquiry, or reflect community values. The prompt becomes the anchor—it keeps the human purpose front and center. So instead of AI driving the agenda, it's responding to ours, helping us ask better questions, surface diverse perspectives, and create space for connection and critical thinking.

Closing thoughts

Finally, let's look to the future. Stacy, you ended your post asking, 'How do we get there?'—to that place of AI fluency and beyond. What's your dream for how education evolves over the next 10 years to bring AI and us into harmony?

The most important thing we can do right now is get really clear on our goals. And then use AI on purpose to support them. AI in education is all about people. That means helping educators and students understand how AI might help them think better, not just work faster.

My dream would be for school systems to transform. I picture schools becoming more inclusive and equitable, using AI to reimagine harmful systems and create stronger communities. Ten years from now I hope learners have a better understanding of their unique human intelligences and also have a clear vision for the future they want to design. Maybe it boils down to empowerment. I want students and educators to work in harmony with AI to become more empowered critical thinkers, creative problem-solvers, etc... Aside from AI enhancing education, I also hope that by 2035 AI is operating in ways that are more environmentally sustainable.

> **What excites me most is a future where AI supports joyful, equitable learning—where every student has access, their data is protected, and connectivity isn't a barrier.**
>
> Cate Tolnai

Beautiful vision, Stacy. And closing thoughts from you Cate. What gets you most excited when you imagine a future where AI and human insights go hand-in-hand to lift up education? What steps do we take now?

What excites me most is a future where AI supports joyful, equitable learning—where every student has access, their data is protected, and connectivity isn't a barrier. I imagine classrooms filled with curiosity, and professional learning that's playful and hands-on, where educators explore AI through real, human-centered experiences.

To get there, we need to prioritize equity from the start—invest in infrastructure, center data privacy, and design PD that sparks creativity, not compliance. That's how we build a future where AI amplifies—not replaces—the magic of teaching and learning.

Key takeaways

- **Amplifying human skills with AI:** AI should amplify uniquely human skills—like empathy, creativity, and collaboration—not replace them.

- **Promoting critical AI fluency:** AI Fluency involves teaching students to question AI outputs critically, recognizing biases and limitations rather than passively accepting AI-generated information.

- **Crafting purposeful AI prompts:** Crafting thoughtful, human-centered prompts ensures AI serves educational goals rather than driving its own agenda.

- **Enhancing reflection with AI:** When used reflectively, AI can enhance self-awareness, empathy, and confidence, serving as a tool for personal and professional growth.

- **Prioritizing equity and inclusion:** Educators must focus from the outset on equity, data privacy, and access to ensure AI enhances inclusive and joyful learning experiences for all.

- **Aligning AI with educational values:** AI adoption should always align clearly with educational values, visions, and goals, transforming schools into more inclusive, equitable spaces that unlock human potential.

- **Building AI literacy accessibly:** Teachers can effectively build AI literacy and fluency through no-tech, discussion-based activities—making AI education accessible to all, regardless of resources.

2

Do you think AI will ever replace teachers, or will it work alongside them in the future?

Well, I really want to say that AI will never ever replace teachers; however, with the amazingly fast-paced development of technology, I think maybe one day "it" can process even more complicated tasks and online courses facilitated by AI may be more than common.

Prof. Nguyen Thi Thuy Linh
University of Languages and International Studies Vietnam

Pedagogy, first and foremost, has an inherent human factor that is impossible to replace with a machine. A machine may explain systems more simply, but there will be many fields in which it is impossible for anything other than human to replace teaching. For example, in my field of expertise, which is languages, artificial intelligence may explain grammatical topics better, but there are things like pronunciation and emotions when speaking, which could never be better explained by a bot than by a human being.

Sergio Alejandro Gaviria Trujillo
Universidad de la Amazonia, Colombia

No not really, AI is unlikely to fully replace teachers but will increasingly work alongside them. While AI can automate tasks, personalize content, and support learning at scale, it lacks the emotional intelligence, adaptability, and human connection that teachers provide. The future of education will likely be a collaborative model, where AI handles routine functions and data analysis, allowing teachers to focus more on mentoring, creativity, and student engagement—roles that are deeply human and irreplaceable by machines.

Lakshmi Chaitanya Datti
The American University of Science, Inida

Nguyen Thi Thanh Thuy
Thompson Rivers University Canada

Low quality teachers may be replaced but high quality and innovative teachers and educators will use it as a tool in their teaching.

I don't think AI will replace teachers, especially not in meaningful, human-centered learning. It can be a great assistant—helping with materials, feedback, and even personalized practice—but it lacks the empathy, intuition, and adaptability that real teachers bring. In my experience, especially with low-level or young learners, connection and trust matter just as much as content. So I see AI working with teachers, not instead of them.

Dr. Aung Thurein Latt
Ames English Myanmar
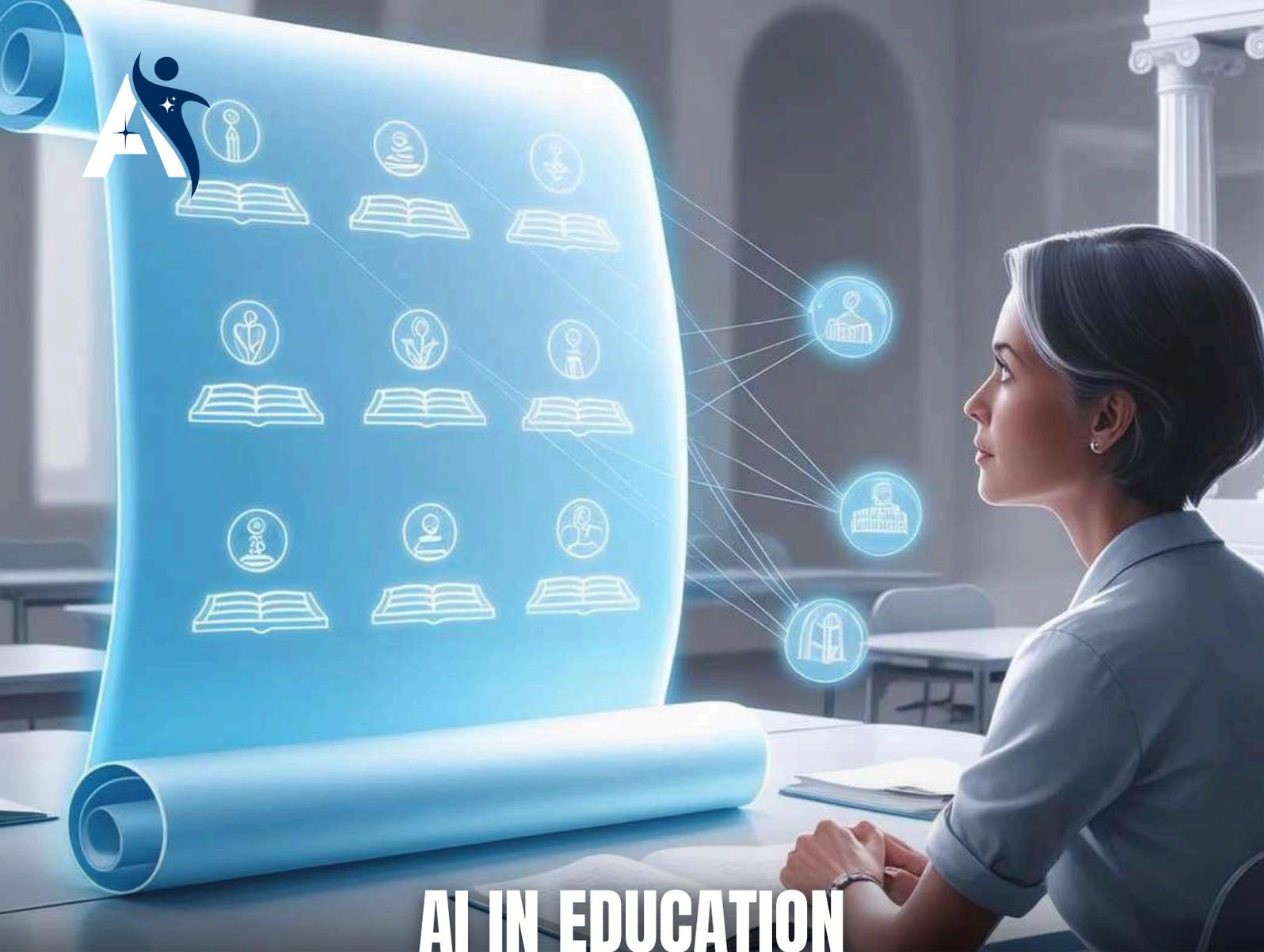
AI IN EDUCATION

A PRACTICAL DECALOGUE FOR TEACHERS

Ioannis Anapliotis

In today's rapidly evolving educational landscape, artificial intelligence is emerging as a transformative force—reshaping how we teach, learn, and interact. As AI technologies become increasingly integrated into classrooms, educators are faced with the challenge of ensuring that these tools enhance critical thinking, nurture creativity, and support equity rather than simply encouraging passive consumption. To navigate this shift effectively, guiding principles are essential for teachers seeking to harness AI in education.

Grounded in global frameworks such as UNESCO's AI in Education guidelines, the Sustainable Development Goals (SDGs), and inspired by the wisdom of ancient Greek philosophy, the practical decalogue, a set of ten guiding principles presented below, offers a roadmap for integrating AI in ways that empower both educators and learners.

1
UNDERSTANDING AI: KNOWLEDGE AS POWER

Before teachers can effectively implement AI, they must develop a deep understanding of its fundamentals. As Socrates famously observed, "I know that I know nothing." Recognizing the limits of our current knowledge is the first step toward true learning. Educators should

- Familiarize themselves with basic AI and machine learning principles,
- Understand the applications and limitations of current AI tools, and
- Explore ethical and societal implications, including data privacy and algorithmic bias.

This foundational knowledge aligns with UNESCO's AI Competency Frameworks for both students and teachers, and supports SDG 4 (Quality Education) by promoting informed, responsible use of technology in learning environments.

◆◆ Real-world application

Imagine a high school computer science teacher who introduces a lesson on supervised learning using a simple neural network model. The teacher uses a real-world dataset, such as class attendance or test scores, to demonstrate how AI can predict trends. This hands-on demonstration not only solidifies theoretical concepts but also shows students the practical limitations and ethical concerns—such as data privacy—associated with deploying AI solutions in real life.

2
PERSONALIZED LEARNING AND EQUITY IN EDUCATION

One of AI's most promising benefits is its capacity to tailor educational experiences to meet individual student needs. By analyzing data on learning patterns and performance, AI can help identify knowledge gaps and provide personalized learning paths. This approach not only optimizes teaching strategies but also promotes equity, ensuring that every student—especially those with learning difficulties—receives the support they need.

Aristotle's concept of the "golden mean" reminds us that balance is essential in personal and societal development. When used appropriately, AI can reduce disparities in access and outcomes, aligning with UNESCO's ethical guidelines and SDG 10 (Reduced Inequalities). Customizing instruction helps teachers address diverse learning styles and foster an inclusive classroom environment.

◆◆ Real-world application

Consider a middle school teacher who employs an adaptive learning platform powered by AI. The system monitors each student's progress and adjusts the difficulty level of tasks in real time. A student struggling with fractions is provided with additional interactive exercises and visual aids, while peers who grasp the concept quickly move on to more challenging problems. This personalized approach not only boosts confidence but also bridges the gap for students from varied academic backgrounds.

3
STRENGTHENING CRITICAL THINKING WITH AI

While AI can offer quick answers and vast amounts of data, its true educational value lies in its ability to foster analytical thinking. Educators should encourage students to

- Compare multiple sources of information,
- Identify and question biases in AI-generated responses, and
- Engage in open dialogue to challenge and verify data.

Plato's belief that "true knowledge comes through dialogue and questioning" is particularly relevant here. By using AI as a starting point for deeper inquiry, students learn not only to consume information but also to critically evaluate it. This practice cultivates a mindset that is essential in an era where misinformation can spread rapidly.

◆◆ Real-world application

In a university seminar on media literacy, a professor uses an AI news aggregator to present articles from various sources. Students are then tasked with comparing the narratives, identifying subtle biases in the AI's selection process, and discussing discrepancies among the articles. This exercise not only sharpens their critical thinking skills but also teaches them how to interrogate digital tools and challenge automated outputs.

4 INTEGRATING AI WITH PROJECT-BASED LEARNING (PBL)

Project-Based Learning (PBL) is an innovative teaching methodology that emphasizes hands-on, real-world problem solving. Integrating AI into PBL, educators can create dynamic, interactive projects where students

- Develop and refine AI models for practical applications,
- Analyze real-world data to address social and environmental issues, and
- Collaborate in teams to design innovative solutions for sustainable development.

Democritus argued that empirical knowledge—knowledge gained from observation and experience—is more reliable than theoretical assumptions. AI-enhanced PBL not only bridges the gap between theory and practice but also equips students with the skills needed for the modern workforce. This approach supports UNESCO's initiatives on AI and Skills Development, as well as SDG 9 (Industry, Innovation, and Infrastructure).

◆◆ Real-world application

A high school science class embarks on a semester-long project to address local air quality issues. Using AI-powered sensors and data analytics, students collect environmental data, develop models to predict pollution patterns, and propose actionable strategies to local authorities. This project not only makes learning engaging but also underscores the role of AI in solving pressing community issues.

5 ETHICAL USE OF AI IN EDUCATION

Ethics must be at the forefront of any AI integration strategy. With issues such as algorithmic bias, data privacy, and the potential for discrimination, it is imperative that educators and students alike understand the ethical dimensions of using AI. Key considerations include

- Recognizing and mitigating bias in AI algorithms,
- Ensuring data security and protecting student privacy, and
- Holding systems accountable for AI-generated outcomes.

Plato's discussions in "The Republic" emphasize justice and ethical responsibility. Integrating these principles into AI usage ensures that educators create a learning environment that not only values technological advancement but also upholds moral integrity. This ethical framework is essential for fostering trust in AI systems and aligns with UNESCO's AI Ethics Guidelines and SDG 16 (Peace, Justice, and Strong Institutions).

◆◆ Real-world application

In an ethics class, students work on a case study where an AI recruitment tool unintentionally discriminated against certain applicants due to biased training data. They analyze the root causes, propose technical and regulatory remedies, and debate the responsibilities of developers versus end-users. This hands-on exploration makes the ethical implications of AI tangible and sparks thoughtful discussions on fairness and accountability.

6 PROMOTING CREATIVITY AND INNOVATION

Despite its analytical strengths, AI should not replace human creativity. Instead, it can serve as a powerful partner in the creative process. Educators can encourage students to explore AI-assisted creativity through activities such as

- Creating artwork or music with the help of AI tools,
- Collaboratively writing stories or poetry where AI contributes ideas, and
- Developing innovative applications that address social challenges.

Sophocles once remarked, "Intelligence is the greatest human virtue." In this light, AI should be seen as a means to amplify human creativity rather than supplant it. Teachers can inspire students to push the boundaries of what is possible in art, science, and beyond by merging the analytical prowess of AI with the imaginative capabilities of the human mind.

◆ Real-world application

An art teacher introduces a digital tool that uses AI to generate patterns based on student input. Students experiment with various color schemes and motifs, using the AI-generated designs as a springboard for their own creative projects. The final artworks, which blend human intuition with algorithmic innovation, are exhibited in a school gallery—showing how technology can enhance artistic expression without overshadowing personal creativity.

7 ENCOURAGING COLLABORATION AND CROSS-CULTURAL LEARNING

In an interconnected world, the ability to collaborate across cultures is more important than ever. AI-powered communication tools and platforms can break down geographical barriers, allowing students to work together on international projects. Such collaborative efforts can

- Facilitate cross-cultural exchanges and understanding,
- Enable students to tackle global issues using diverse perspectives, and
- Provide real-time translation and communication support for multilingual teams.

Hippocrates' wisdom—that "man is part of a greater whole"—resonates in the context of global collaboration. When educators harness AI to connect classrooms around the world, they promote a sense of global citizenship that is vital in today's diverse and dynamic society. This approach aligns with UNESCO's goals for global learning and SDG 17 (Partnerships for the Goals).

◆ Real-world application

A language arts teacher collaborates with a counterpart from a school in Japan to launch a joint project where students exchange digital stories. Using AI-based translation tools, students overcome language barriers to share personal narratives, cultural insights, and creative writing. This project not only enhances linguistic skills but also deepens mutual cultural understanding and global engagement.

(See an example of real-world example on page 83.)

8 DEVELOPING RESILIENCE AND ADAPTABILITY

The pace of technological change means that both educators and students must be prepared to adapt continuously. AI tools are constantly evolving, and the skills needed to interact with these tools are in a state of flux. It is essential that teachers

- Encourage a growth mindset where challenges and failures are viewed as opportunities for learning,
- Promote continuous professional development and lifelong learning, and
- Foster resilience by preparing students to navigate an ever-changing digital landscape.

Heraclitus famously stated, "Everything flows," a reminder that change is constant. By embracing adaptability and encouraging students to view setbacks as part of the learning process, educators help build a resilient future workforce. This commitment to lifelong learning is central to UNESCO's vision for education and directly supports SDG 4 (Quality Education).

◆◆ Real-world application

A district-wide teacher training program incorporates AI workshops that simulate unexpected technology failures during classroom activities. Teachers learn strategies to pivot quickly— using backup materials, engaging students in problem-solving discussions, and reflecting on the experience to improve future practices. This proactive approach instills a sense of resilience and prepares educators to lead by example in uncertain digital environments.

9 ENCOURAGING COLLABORATION AND CROSS-CULTURAL LEARNING

Beyond the classroom, AI holds significant promise for addressing some of the world's most pressing environmental challenges. Leveraging AI assists students to

- Analyze complex climate data to understand trends and predict changes,
- Design sustainable energy solutions and conservation strategies, and
- Explore the interconnections between technology, society, and the natural world.

Aristotle's emphasis on balance in nature and society serves as a guiding principle for using AI in sustainability efforts. Integrating environmental awareness into the curriculum not only enhances students' scientific literacy but also empowers them to become active participants in the global drive toward sustainability. This application of AI supports UNESCO's initiatives on sustainability and directly addresses SDG 13 (Climate Action).

◆◆ Real-world application

In a collaborative science project, students use AI to model the effects of deforestation on local biodiversity. They gather satellite imagery and environmental data to forecast changes in the ecosystem. The project culminates in a community presentation where students propose practical conservation measures, highlighting how AI can drive informed action on environmental issues.

10
AI AS A TOOL FOR A BETTER FUTURE

Ultimately, the goal of integrating AI in education is to empower students and educators to build a better, more equitable future. AI should serve as a tool that complements human insight and creativity, not as a replacement for the wisdom and empathy that teachers provide. In practice, this means

- Embracing AI as a partner in the educational process,
- Using AI-driven insights to inform and enhance teaching strategies, and
- Remaining vigilant about the ethical and societal implications of AI.

Pericles once stated, "The secret to happiness is freedom, and the secret to freedom is courage." By harnessing AI responsibly, educators can create learning environments that are both innovative and humane. In doing so, they ensure that technology serves as an enabler of progress—a means to uplift every learner and foster a culture of critical inquiry, creativity, and collaboration.

◆❯ Real-world application

A forward-thinking school partners with a local tech startup to integrate AI tools across its curriculum. The initiative includes student-led research projects, teacher mentoring sessions, and community outreach programs that explore sustainable urban planning and social innovation. Through this collaborative effort, AI becomes a bridge between academic pursuits and real-world impact, demonstrating how technology can shape a brighter, more inclusive future.

The practical decalogue outlined above provides a comprehensive framework for integrating AI in education in a manner that is thoughtful, ethical, and transformative. By understanding AI, personalizing learning, fostering critical thinking, and embracing project-based approaches, educators can create classrooms that are as dynamic and diverse as the world we live in. Emphasizing ethical practices and global collaboration ensures that the use of AI is aligned with the highest standards of educational excellence and social responsibility.

As we stand at the intersection of ancient wisdom and modern technology, it is clear that the future of education lies in a harmonious blend of human insight and AI innovation. With careful guidance and a commitment to lifelong learning, teachers can harness AI not only as a tool for academic excellence but also as a catalyst for a more just, sustainable, and empowered society.

Following this decalogue and drawing on the real-life examples presented, educators can lead the way in shaping a future where technology and humanity coexist in a symbiotic relationship—each enhancing the other for the benefit of all.

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FUELING A HEALTHIER LEARNING SYSTEM

Jessica Maddry

When I first started teaching, I was surrounded by binders, sticky notes, and that unmistakable overhead projector glow. Every day felt like triage—lesson planning, parent calls, hallway duty, and somehow still finding time to check in on a student who seemed just a little "off." It wasn't just about getting through the day—it was about caring for a community in motion.

Now, a new challenge has entered the scene: AI

We're told it's revolutionary. That it can automate, accelerate, and individualize. But for many educators, it feels more like an unfamiliar prescription being handed over without clear dosage or long-term studies. And while there's no shortage of hype or warnings, empathetic guidance—the support that honors our schools as the dynamic, interconnected communities they are—is what's truly needed.

That's why this moment demands a shift in mindset.

Let's stop thinking of schools as machines in need of upgrades—and start thinking of them as bodies in need of care. If a school is a living system, then AI is a supplement: potentially helpful, but only when introduced thoughtfully and monitored closely. Just like with any health intervention, context matters. So does timing. So does trust.

In this article, I offer a framework rooted in the practice of care. **The PURPOSE Framework: Purpose, Understanding, Responsibility, Planning, Optimization, Safety, and Evaluation**—serves as a guide for educators, leaders, and communities looking to integrate AI not just ethically, but intentionally.

Because education is not about chasing tools. It's about protecting the health of learning ecosystems and the people who live inside them.

> *Education is not about chasing tools. It's about protecting the health of learning ecosystems and the people who live inside them.*
>
> *Jessica Maddry*

P URPOSE

Clarifying the diagnosis before the prescription

When a child isn't feeling well, a good doctor doesn't just reach for the nearest medication. They start by asking questions. Listening closely. Running tests. Understanding the whole picture.
We must do the same in education when integrating AI.

The first step isn't downloading a new app or automating a task. It's asking:

What are we trying to treat? What does this tool actually support—and what might it unintentionally harm?

AI is often introduced without clear learning goals. But education needs purpose, not novelty. When aligned with values and student needs, AI supports growth. Chiu & Lim (2022) found clear roles improve outcomes—beneficial for inclusion, but harmful if replacing meaningful teacher feedback.

Purpose invites us to pause before implementation and ask:

- What problem am I solving, and for whom?
- Does this support deeper thinking or just faster output?

✦ **Reflection**

Is this AI tool designed for long-term growth or just quick fixes? What issue are you really addressing?

✦ **Research snapshot**

Chiu & Lim (2022) warn against using AI without clear purpose—tech should support people, not replace them.

✦ **Tip for practice**

Start every tool review with: "What is the learning purpose?" If it's unclear, the tool isn't ready.

Purpose keeps us grounded. It reminds us that the goal isn't to digitize education—it's to humanize it through better tools, stronger systems, and intentional care.

UNDERSTADING

Knowing the system before administering treatment

In medicine, you don't prescribe a new supplement without understanding how it interacts with the body. You consider allergies, sensitivities, and the full medical history. You ask: What will this interact with? Could it cause harm if misunderstood?

Understanding AI requires that same care.

For many educators, AI feels foreign—yet it's already grading, flagging, and personalizing. Without proper training, teachers are left guessing its value—or its risks.

Understanding doesn't mean mastering algorithms. It means:

- Knowing what a tool is doing behind the scenes
- Understanding its limitations and biases

When educators have strong AI literacy, they can ask the right questions before introducing a new tool into the classroom. They can also protect their students from systems that were never designed with their contexts in mind.

Research underscores this. Brandão et al. (2024) highlight the importance of professional learning. It's not enough to hand over tools—we must ensure educators know how to interpret their outputs and spot ethical red flags.

✦ Reflection

If your classroom is a living body, what organs—or values—could be disrupted if you misused an AI tool? What understanding do you need before introducing something new?

✦ Research snapshot

Brandão et al. (2024) found that hands-on AI learning, paired with time for reflection, leads to more ethical and effective classroom integration.

✦ Tip for practice

Choose one tool your school is using and host a "staff body scan": What does it collect? How does it affect teacher time, student experience, and feedback loops?

Understanding ensures we don't prescribe AI tools that treat one part of the system while unintentionally harming another. And it positions educators—not algorithms—as the ones best equipped to monitor outcomes.

RESPONSIBILITY

Upholding ethical care across the whole system

In any health system, responsibility doesn't fall on one person. Doctors rely on pharmacists. Nurses rely on accurate records. Families rely on clear communication. Everyone plays a role—and everyone is accountable for outcomes.

The same is true for AI in education.

AI isn't just a classroom tool—it's a system-level intervention. And without shared responsibility, even the best intentions can lead to harm.

Educators are asking critical questions:

- Who approved this tool, and why?
- What happens if it makes a mistake?

These questions aren't resistance—they're care. Educators administering AI deserve to know how it works and its impact. Responsibility starts with transparency. Celik (2022) stresses the need to understand and explain AI ethically. Modeling thoughtful use helps students reflect, not rely.

✦ Reflection

If your school is a shared body, where is responsibility housed? Are ethical decisions centralized—or do educators carry them alone?

✦ Research snapshot

Celik (2022) argues that ethical implementation depends on teacher agency and clearly defined roles across the institution. Responsibility cannot be an afterthought—it must be designed.

✦ Tip for teams

Map out your school's AI "care chain." Who introduces tools? Who approves them? Who supports reflection and monitors side effects? Make the system visible.

True care means shared responsibility. Applying the same ethical standards to AI as we do to consent forms or safety drills helps protect the entire learning system—especially its most vulnerable parts.

PLANNING

Building treatment plans, not quick fixes

No doctor would prescribe a new treatment without first creating a care plan. They'd consider the patient's history, dosage, timing, and potential interactions. They'd communicate expectations, monitor side effects, and adjust over time.

In schools, AI must be approached the same way.

Planning is a form of care, not just logistics. It asks how to introduce AI in ways that strengthen learning. Without it, tools land in classrooms unprepared—like tossing in medicine and hoping it helps.

Thoughtful planning includes:

- Identifying the learning goal the tool supports
- Mapping AI use across existing workflows
- Designing feedback loops to adapt as needed

Mubofu & Kitali (2024) stress the need for school-wide AI planning—through workshops, stakeholder input, and clear protocols. Without it, harm can grow, especially for underserved students. Thoughtful planning turns AI into preventative care, not disruption.

✦ Callout reflection

If your school were a body, what's your AI intake plan? How will you monitor reactions, adjust dosage, or phase out what doesn't work?

✦ Research snapshot

Mubofu and Kitali (2024) found that schools with collaborative planning teams were better equipped to manage ethical risks and adjust their AI use in real time. Planning isn't extra—it's essential infrastructure.

✦ Tip for leaders

Form a multidisciplinary "AI Health Team" at your school. Include educators, students, counselors, IT staff, and community members. Let them guide pilots, review tools, and co-author usage protocols.

Planning invites us to pause, breathe, and make choices that center wellness—not just innovation. Because when schools plan like caregivers, students thrive like whole humans—not data points.

OPTIMIZATION

Nourishing the system, not overstimulating it

In health, optimization isn't about doing more—it's about doing better. It's choosing nutrient-dense foods over empty calories. It's focusing on long-term strength, not short bursts of energy.

In education, optimization with AI works the same way.

When used with intention, AI can offer rich learning supplements—tools that personalize pathways, scaffold complexity, or support multilingual learners. But when misused, it can become a stimulant: speeding up processes without improving substance.

To optimize is to nourish—not to overclock.

Brandão et al. (2024) point to a critical distinction: schools that use AI to enhance creativity, feedback, and engagement see benefits. But those who use it to replace interaction or standardize experience often report diminishing returns.

So, what does optimization look like in practice?

- AI helping a student visualize a complex math concept
- Automated scaffolds that support—not replace—teacher feedback
- Tools that respect human pace, not rush it

True optimization helps each learner metabolize content in their own way. It supports cognitive digestion, not cognitive overload.

✦ Reflection

Are your AI tools nourishing student growth—or just making learning faster? What do your learners actually need more of: speed, or support?

✦ Research snapshot

Brandão et al. (2024) found that optimization works best when paired with reflective lesson planning. AI is not the main dish—it's the supplement that boosts what's already working.

✦ Tip for educators

Ask yourself: What's the pedagogical nutrient I'm trying to deliver? Use AI to enhance that goal—not distract from it.

Optimization is about helping each learner and each teacher feel stronger, clearer, and more supported. When done right, AI doesn't replace our efforts—it restores capacity to the parts of the system most in need of care.

SAFETY

Protecting the system like an immune response

In the human body, the immune system is always working—quietly scanning for harm, repairing damage, and defending the whole from hidden threats. In education, safety plays the same role. It's not just firewalls and passwords. It's a living process of protection, built on trust, transparency, and foresight.

When we introduce AI into schools, we're introducing something potent. And just like with a new medicine, we must be vigilant:

- What data does it collect—and why?
- Who has access—and how is it stored?
- What are the emotional and social side effects of automation?

Ignoring these questions risks more than data breaches—it erodes trust, teacher autonomy, and family connection. Mubofu & Kitali (2024) emphasize strong policies, audits, and inclusive dialogue as essential. Safety isn't about stopping innovation—it's about being ready for it.

✦ Reflection

If this AI tool were a treatment, would you be confident giving it to every learner? What protections would you demand first?

✦ Research snapshot

Schools that build in consent processes, minimize data collection, and engage families in decision-making are far more likely to earn trust and reduce risk (Mubofu & Kitali, 2024).

✦ Tip for practice

Create a "digital safety protocol" with students. Co-define what it means to use AI responsibly, and set classroom expectations together.

Safety is not a burden, it a form of that works best when shared, not siloed.

EVALUATION

Monitoring the pulse of learning and growth

A healthy body doesn't just take a new treatment and hope for the best. It checks vitals. Tracks symptoms. Adjusts dosage. Evaluation is how we know whether what we're doing is working. In education, evaluation is often framed as testing. But when it comes to AI, evaluation is about asking better questions:

- Is it improving teaching, or increasing workload?
- Are students gaining clarity and confidence—or confusion and dependence?

Zawacki-Richter et al. (2021) stress that ethical AI use requires ongoing feedback from teachers, students, families, and tech staff. Like monitoring a new medication, schools must track impact, surprises, and unintended effects.

✦ Reflection

When was the last time you "took the pulse" of your classroom's tech use? What have your students told you—directly or indirectly—about how it's affecting them?

✦ Research snapshot

Ongoing monitoring and human oversight are essential. Without them, AI can quickly deviate from its intended use and amplify inequities (Zawacki-Richter et al., 2021).

✦ Tip for schools

Embed a quarterly "tech reflection" into your calendar. Give space for students, teachers, and families to weigh in.

Evaluation helps us course-correct with grace. It ensures that our interventions are not just efficient, but effective, ethical, and aligned with purpose.

HEALING SYSTEMS, NOT JUST ADOPTING TOOLS

Healthy learning systems don't thrive on tools alone; they require thoughtful, human-centered planning. The. **PURPOSE Framework** is more than a guide for integrating AI—it's a commitment to nurturing the heart of education. Schools are not factories awaiting automation; they are vibrant, living communities where relationships, trust, and growth intertwine. AI can support schools and education, but only when introduced with care, humility, and purpose. Let's embrace this moment to care for our educational ecosystems intentionally, ensuring every tool we adopt honors the students, educators, and families who breathe life into our schools.

Jessica Maddry is an international educator, founder of BrightMinds AI, and author of Beyond the Machine: Teaching with PURPOSE in the Age of AI. She serves on global advisory boards, contributes to international education movements, and is currently pursuing her PhD in psychology with a focus on equity and emerging technologies.

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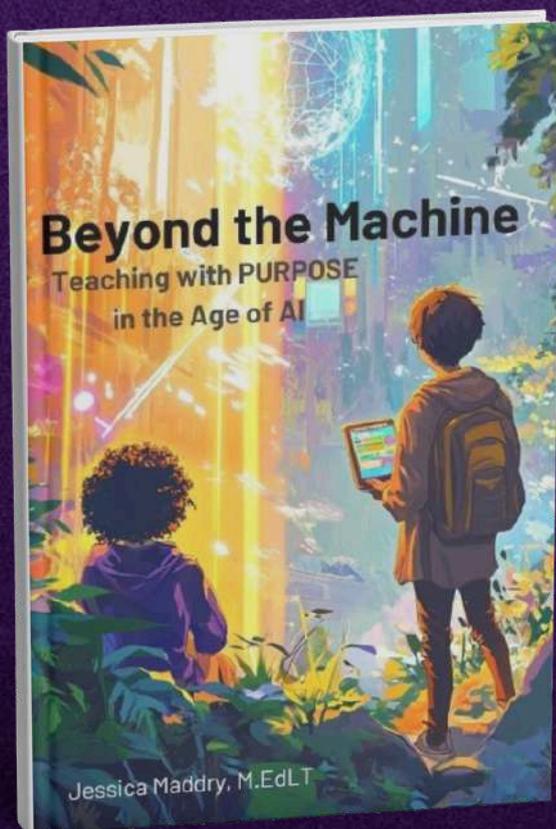
BEYOND THE MACHINE
Teaching with PURPOSE in the Age of AI
Written by Jessica Maddry

Beyond the Machine: Teaching with PURPOSE in the Age of AI by **Jessica Maddry** is more than just a book about technology—it's a call to action for educators to reclaim the heart of teaching in a rapidly shifting landscape. As AI redefines classrooms, from personalized learning tools to automated assessments, it also brings urgent ethical and emotional questions to the forefront: What does it mean to teach in the age of machines? How do we protect what is most human in learning?

Through the story of Ms. Taylor—a teacher navigating the promises and pitfalls of AI—readers are invited into a deeply relatable and thought-provoking journey. Maddry provides not just reflection, but direction. Her twin frameworks, PURPOSE and PDEF, offer educators and leaders practical tools for making intentional, values-driven decisions about AI use, while safeguarding equity, empathy, and meaningful connection.

At a time when education risks being swept away by the speed of innovation, Beyond the Machine brings us back to what matters most. It champions the role of educators as thoughtful guides, ethical leaders, and creators of human-centered learning experiences.

The EduVerse Newsletter is excited to to feature this visionary work. With permission from the author, we are pleased to share an excerpt from Chapter 1.

Order your copy

Jessica Maddry is an international educator, founder of BrightMinds AI, and author of Beyond the Machine: Teaching with PURPOSE in the Age of AI. She serves on global advisory boards, contributes to international education movements, and is currently pursuing her PhD in psychology with a focus on equity and emerging technologies.

CHAPTER 1

THE RISE OF AI IN EDUCATION

Jessica Maddry

This excerpt is from Chapter 1, The Rise of AI in Education, of the book **Beyond the Machine: Teaching with PURPOSE in the Age of AI** *by Jessica Maddry. We express our gratitude to Jessica for granting us the special privilege to republish this section in EduVerse Newsletter 21, the special edition focused on AI and Us - The New Harmony in Education.*

✦ OPPORTUNITY AND CHALLENGES
The rise of AI in education

The integration of artificial intelligence (AI) into education is no longer a futuristic fantasy; it's a rapidly unfolding reality. The past several years have witnessed an explosion of AI-powered tools designed to revolutionize how we teach and learn. From personalized learning platforms that adapt to individual student needs to automated grading systems that free up teachers' time, the potential applications of AI in education are vast and varied. However, this transformative force is not without its challenges, and a careful, nuanced approach is crucial to harness its benefits while mitigating potential risks.

One of the most significant impacts of AI is the emergence of personalized learning platforms. These platforms use algorithms to analyze student performance, identify learning gaps, and adapt the curriculum accordingly. This individualized approach allows students to learn at their own pace and focus on areas where they need the most support. For example, platforms like Khan Academy utilize AI to recommend specific exercises and videos based on a student's progress, providing targeted support and fostering a more engaging learning experience.

Similarly, platforms like DreamBox Learning use AI-powered game-based learning to adapt to a student's strengths and weaknesses in mathematics. While these personalized platforms offer the potential for significant gains in student learning outcomes, they also raise concerns about data privacy and algorithmic bias. The vast amounts of student data collected by these platforms must be handled responsibly and ethically, ensuring compliance with privacy regulations and safeguarding against potential biases that might disproportionately affect certain student populations.

Another area where AI is making significant inroads is automated grading. AI-powered systems can efficiently grade multiple-choice questions, short-answer responses, and even essays, freeing up teachers' time for more meaningful interactions with students. This technology can be especially helpful in large classrooms or when dealing with high-volume assignments. However, the accuracy and fairness of AI-based grading systems are critical considerations.

While AI can accurately assess objective questions, it may struggle with more nuanced assignments that require subjective judgment and the assessment of higher-order thinking skills like critical analysis and creative problem-solving. Over-reliance on automated grading could inadvertently devalue these essential skills, potentially leading to a narrow and less holistic approach to assessment. Moreover, concerns remain about potential biases embedded in the algorithms used for grading, which might disadvantage certain groups of students.

Intelligent tutoring systems (ITS) represent another promising application of AI in education. ITSs use AI to provide individualized feedback and support to students, acting as virtual tutors that adapt their instruction based on student performance. These systems can provide immediate feedback, identify misconceptions, and guide students toward a deeper understanding of the material.

Platforms like Carnegie Learning's MATHia use AI to provide personalized tutoring in mathematics, tailoring the instruction to each student's individual needs and learning style. However, it's crucial to recognize that while ITSs can enhance learning, they should not replace human interaction. The warmth, empathy, and personalized connection that a human teacher provides remain indispensable to effective teaching.

The ideal scenario involves AI acting as a valuable supplement to, rather than a replacement for, the human teacher.

Beyond these specific examples, the broader landscape of educational technology is undergoing a dramatic transformation due to the rise of AI. The availability of sophisticated AI tools is altering teaching methodologies, requiring educators to adapt their strategies and embrace new ways of engaging with students and assessing their learning.

This necessitates a proactive approach to professional development, empowering teachers with the necessary skills and confidence to effectively integrate AI tools into their practice.
The integration of AI demands a paradigm shift in how we approach teacher training. Traditional pedagogical methods must be supplemented with training in data literacy, AI ethics, and the effective use of AI-powered tools. This is not just about learning to operate the technology but also about understanding its limitations, potential biases, and ethical implications.

The rapid advancements in AI are also driving a considerable need for ongoing research and development in the field of educational technology. This involves developing more robust, ethical, and equitable AI systems that can truly address the diverse needs of students. It requires a multidisciplinary approach, bringing together educators, AI specialists, ethicists, and policymakers to collaborate on research and development efforts. Only through this collaborative approach can we ensure that AI tools are developed and implemented responsibly and effectively.

The rise of AI in education presents both extraordinary opportunities and substantial challenges. The potential to personalize learning, automate tasks, and enhance student outcomes is significant. However, we must navigate the ethical considerations and practical challenges carefully. The successful integration of AI requires a thoughtful and purpose-driven approach, one that prioritizes ethical considerations, addresses equity concerns, and ensures that technology serves rather than dictates the goals of education. The next chapters delve deeper into the ethical considerations and offer practical frameworks for navigating this complex landscape.

AI is revolutionizing education through personalized learning, automated grading, and intelligent tutoring systems. While these tools promise efficiency and adaptability, they also raise concerns about privacy, bias, and over-reliance on technology. AI should not replace teachers but act as a supplement that enhances engagement and accessibility. The challenge is ensuring AI tools are deployed thoughtfully, equitably, and in ways that empower students rather than diminish human interaction.
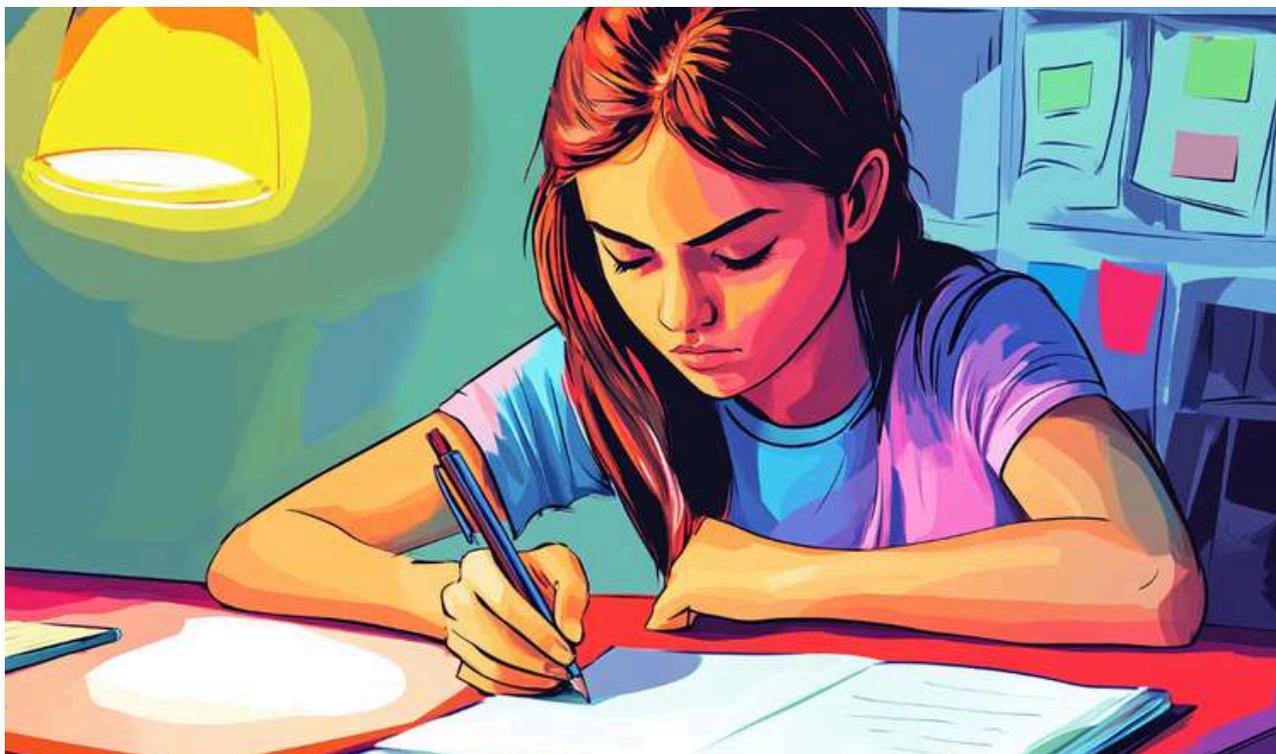
✨ THE WIDENING TECHNOLOGY GAP
Addressing equity and access

The widening chasm of digital inequity presents a significant challenge to the equitable integration of AI in education. While AI promises personalized learning experiences and enhanced educational outcomes, its benefits are not universally accessible. Students from disadvantaged backgrounds often lack the necessary technological infrastructure, digital literacy skills, and consistent internet access to fully participate in AI-powered learning environments. This technological divide, already a significant barrier to educational success, is further exacerbated by the rapid adoption of AI in education, potentially creating a two-tiered system where some students thrive while others are left behind.

The issue is multifaceted. Firstly, access to technology itself remains a major hurdle. Many students from low-income families lack computers, tablets, or reliable internet access. This limits their ability to engage with online learning platforms, tutoring systems, and other digital resources. Even within schools, disparities exist. Schools in underserved communities often lack the funding and resources to provide students with adequate technology infrastructure, including updated computers, high-speed internet, and sufficient technical support. This technological scarcity restricts students' opportunities to participate fully in AI-enhanced learning activities.

Secondly, the digital literacy skills required to utilize AI tools effectively are not evenly distributed. Students from affluent backgrounds often have greater access to technology therefore, develop their digital literacy skills from a younger age. In contrast, students from disadvantaged backgrounds may lack these opportunities, resulting in lower levels of digital literacy and a decreased ability to benefit from AI-powered learning resources. They may struggle to understand the functionalities of AI tools, interpret AI-generated feedback, or troubleshoot technical issues, thereby limiting their ability to engage meaningfully with AI-enhanced learning experiences.

Furthermore, the design and development of AI educational tools often fail to consider the diverse needs and learning styles of all students. Many AI systems are developed with a focus on a specific demographic, neglecting the unique challenges and learning preferences of students from diverse backgrounds. For example, AI-powered assessment tools might not be adequately calibrated to evaluate the work of students with diverse linguistic backgrounds or learning disabilities. Similarly, AI tutoring systems may not provide culturally relevant content or cater to students with different learning styles, thereby perpetuating existing inequalities. The lack of inclusive design in educational technology further exacerbates the technology gap, limiting the potential benefits for students from marginalized communities.

Addressing this widening technology gap requires a multi-pronged approach that involves collaboration between educators, policymakers, technology developers, and community organizations.

Firstly, bridging the digital divide requires significant investments in expanding access to technology and internet connectivity in underserved communities. This includes providing students with personal devices, ensuring reliable internet access at home and school, and establishing community centers with access to technology and digital literacy training. Governments and educational institutions must prioritize funding initiatives aimed at improving technological infrastructure in schools serving disadvantaged populations.

Strengthening digital literacy education is crucial.

Curricula must incorporate explicit instruction in digital literacy skills, enabling students to critically evaluate information, navigate online platforms, and utilize digital tools effectively. This requires integrating digital literacy training into the broader curriculum, providing targeted support for students who need extra help, and developing teacher training programs that equip educators with the skills to effectively integrate technology and support students' digital literacy development.

Moreover, promoting the inclusive design and development of AI educational tools is essential. AI tools should be designed with diverse learners in mind, considering various learning styles, cultural backgrounds, and linguistic needs. This involves incorporating feedback from educators and students from diverse backgrounds in the design process, ensuring that AI tools are both effective and equitable. Technology developers need to prioritize the creation of accessible and inclusive AI tools that cater to the needs of all learners, regardless of their background or learning style.

Furthermore, fostering collaborations between schools, community organizations, and technology providers can facilitate equitable access to AI-powered educational resources. Community organizations can play a crucial role in providing students with access to technology, digital literacy training, and support services. Collaborations between schools and technology providers can ensure that AI tools are tailored to the specific needs of the school community and effectively integrated into the educational environment.

Finally, addressing the ethical implications of AI in education is crucial to ensuring equitable access. Algorithmic bias in AI systems can perpetuate existing inequalities, with AI tools potentially disadvantaging students from marginalized communities. Ensuring fairness and transparency in the design and deployment of AI tools is paramount, requiring rigorous testing and evaluation to mitigate algorithmic bias and promote equitable outcomes. This involves ongoing monitoring and evaluation of AI systems to identify and address any potential biases. Transparency in the algorithms themselves is vital, allowing for scrutiny and improvement by developers. For educators, transparency from the providers on the process of how this is maintained is essential.

The integration of AI in education holds immense potential for transforming learning and improving educational outcomes. However, realizing this potential requires addressing the widening technology gap and ensuring equitable access to AI-powered educational resources for all students. This requires a concerted effort from various stakeholders, including educators, policymakers, technology developers, and community organizations, to create a more inclusive and equitable learning environment in the age of artificial intelligence.

By actively working to bridge the digital divide and address the ethical implications of AI, we can harness its transformative power to benefit all students, regardless of their background. The aim should be an education system where AI enhances, rather than hinders, the educational opportunities available to every learner. Only through a commitment to equity and inclusion can we ensure that AI serves as a tool for progress and opportunity for all.

> *AI's potential in education is enormous, but access remains deeply unequal, widening the digital divide. Students from underprivileged backgrounds often lack the devices, connectivity, and digital literacy to benefit from AI-enhanced learning. Without intentional policies and investments, AI could reinforce systemic inequities rather than bridge them. Successful integration must prioritize accessibility, inclusive design, and the digital empowerment of all students.*

The world of education is navigating a profound transformation driven by the increasing integration of AI. A potential paradigm shift offering immense opportunities to enhance educational outcomes and significant challenges that demand careful consideration. The question for educators, institutions, students, and policymakers has evolved to how to incorporate AI thoughtfully, ethically, and effectively. The core challenge lies in harnessing the power of AI while preserving the essential elements that form the bedrock of meaningful education. Striking this delicate balance is paramount to ensuring technology serves our best interests within the educational sphere. Failure to navigate this integration carefully risks creating educational systems that are efficient but lack warmth, personalized yet isolating, data-rich versus wisdom-poor. This could hinder our ability to nurture emotionally intelligent, well-rounded students who are ready for academic success and a complex future.

INTEGRATING AI
in education

THE CRITICAL BALANCE

Christina Maroun

THE EXPANDING PROMISE OF AI IN EDUCATIONAL CONTEXTS

AI can streamline administrative burdens, personalize learning pathways, broaden access, and provide powerful analytical insights across multiple facets of the educational ecosystem.

AI presents a powerful solution for automating many routine, time-consuming administrative tasks, which often divert educators' focus from direct student interaction, such as managing attendance records, curating learning resources, and preparing lesson plans. This automation empowers educators to focus on building relationships with students and fostering meaningful learning experiences.

AI adaptivelearning platforms can continuously analyzeindividual student performance data and dynamically adjust the difficulty of content presented. This creates customized learning pathways, allowing students to progress at their own optimal pace. AI can act as an infinitely patient and adaptable co-pilot, helping to tailor the educational journey to each unique learner.

AI tutoring systems and chatbots offer personalized, 24/7 availability. They hold significant potential for quality educational support, particularly benefiting students in remote areas. AI can also enhance accessibility through real-time transcription or translation services, adapting to individual progress and needs.

AI can process vast amounts of data to identify patterns and trends, highlighting concepts where students are struggling, pinpointing skill gaps, and visualizing learning progress over time. Aggregated data can reveal broader trends, informing decisions about resource allocation, curriculum development, and professional development needs.

🌿 THE IRREPLACEABLE HUMAN ELEMENT IN EDUCATION

Education remains a fundamentally human endeavor. The relationship between educator and student is where deep, lasting, and meaningful learning is built.

The empathetic educator creates a psychologically safe and supportive learning environment where students feel valued and understood. While AI can identify patterns of errors and suggest exercises, an educator brings a nuanced understanding, perceives subtle cues of frustration, and offers genuine emotional encouragement. This empathetic connection builds trust and rapport, making students more receptive to guidance and willing to take intellectual risks.

Educators operate with a sophisticated level of emotional intelligence that guides their interactions. They navigate social dynamics, mediate conflicts, and respond to unspoken needs. This deep, intuitive grasp of interaction allows them to connect with students on a personal level that fosters engagement and belonging. A skilled educator can sense when a class needs a shift in approach,adjusting mid-lesson to maintain engagement and address emerging needs.

Educators bring their unique experiences to the classroom by sharing relevant personal anecdotes, which can make abstract conceptsmore relatable and build powerful rapport. Educators are crucial role models. When they demonstrate their learning journeys, including moments of struggle and triumph, they provide students with authentic models of resilience and growth.

Educators excel at facilitating dynamic, open-ended learning experiences that cultivate thinking. They can guide rich classroom discussions, design engaging project-based learning activities, and provide feedback that prompts deeper reflection. An educator might pivot a lesson based on an unexpected question, leading to more in-depth exploration.

Classrooms are social ecosystems. Educators are instrumental in creating a positive and inclusive classroom communitywhere students feel a sense of belonging and learn essential social skills like collaboration, and conflict resolution.

🌿 NAVIGATING THE INTEGRATION: STRATEGIES FOR BALANCE

The successful integration of AI into educationrequires careful planning,ongoing reflection, and a commitment to values. Practical strategies include:

1 Automate thoughtfully

Leverage AI primarily for well-defined, routine administrative tasks and specific types of formative assessment. Reserve educator time for activities that demand empathy and complex judgment. For example, AI can grade multiple-choice questions but leave essays for educators who can provide nuanced insights.

2 Use AI insights as starting points

Utilize data-driven patterns as valuable starting points, but filter these through professional judgment and direct observation. AI might identify algebra struggles, but an educator can determine the 'why'.

3 Reinvest liberated time purposefully

When automation frees up educator time, consciously reinvest it into impactful, relationship-building activities like personalized student conferences, small-group instruction, and creative curriculum design. Educators might use time saved from automated grading to create more interactive and engaging learning activities that foster deeper understanding.

4 Maintain oversight

Treat AI content as initial drafts or possibilities that require critical professional review, refinement, and adaptation for accuracy, soundness, and contextual relevance. An AI might generate a lesson plan, but an educator will ensure it aligns with curriculum goals, student needs, and classroom dynamics.

5 Design learning experiences for interaction

Incorporate AI tools while preserving opportunities for meaningful dialogue, collaboration, and connection between students and educators. Use AI as a supplement rather than a replacement for interaction. Ensure that technology enhances rather than diminishes the social aspects of learning.

6 Integrate AI literacy education

Equip students and educators with AI literacy, including understanding how AI systems work, their capabilities and limitations, data privacy, potential bias, and ethical considerations. Teach students to critically evaluate AI outputs and understand the responsible use of these technologies.

7 Advocate for supportive policies

Achieving balance requires clear, ethical policies regarding data governance, privacy, and acceptable use of AI tools. Collaboration between educators, administrators, technology developers, and policymakers is essential to ensure that AI implementation aligns with educational goals and values.

BALANCING AI AND HUMAN CONNECTION
the road ahead

Striking a balance between AI's efficiencies and human connection is critical, offering opportunities to enhance learning but also raising concerns about equity, accessibility, student well-being, and the evolving role of educators.

1 Addressing equity and accessibility

While AI has the potential to democratize education by providing resources to underserved populations, it can also exacerbate existing inequalities if not implemented thoughtfully.

The digital divide—lack of reliable internet or devices—must be addressed to ensure all students benefit. AI systems, shaped by their training data, require regular audits and diverse development teams to eliminate biases that could harm certain student groups. Tools must also support diverse learning needs with multilingual options, accommodations for neurodivergence, and culturally responsive content.

2 Impact on student well-being and holistic development

When educators are free of administrative tasks, they have greater mental bandwidth and emotional availability to be fully present with their students. This increased presence promotes a positive classroom climate for student psychological safety, engagement, and well-being.

This balanced approach inherently supports holistic student development, nurturing crucial social-emotional competencies alongside academic achievement. Educators will have more time to prioritize relationships and can more effectively model empathy, active listening, and constructive conflict resolution. They can structure collaborative learning experiences that help students develop teamwork and other social skills.

3 The evolving role of educators in AI-integrated classrooms

As AI becomes more integrated into education, the role of educators is evolving. Educators are becoming facilitators who guide students in navigating a world where AI is an increasingly prominent tool. They design curricula to complement AI, teach critical thinking to evaluate AI outputs, and mentor students in creativity, empathy, and ethical reasoning. By balancing AI's capabilities with human connection, educators ensure technology enhances, rather than replaces, the heart of learning.

AI in education represents a transformative opportunity, but its ultimate value hinges on our wisdom in navigating its implementation. AI can augment educators' expertise, amplifying their reach and freeing them to focus on the intrinsic aspects of their craft. The future of effective education lies in achieving an intentional harmony where the analytical power of technology works hand-in-hand with empathy, intuition, critical thinking, and connection.

By thoughtfully balancing these elements, we can create richer, more responsive, and more supportive learning environments. As we navigate this evolving landscape, maintaining a human-centered approach is essential. We must continuously reflect on how AI should best enhance potential, foster genuine understanding, deepen connection, and promote equitable opportunities for all learners. The goal is not to replace educators, but to empower educators with tools that allow them to focus on inspiring, guiding, and connecting with students in ways that technology never could.

Christina Maroun is a data science fellow with over seven years of experience in the education space. Some of her previous roles include tutor, teaching assistant, and student success coach. She has served numerous studentpopulations across Texas, Connecticut, and Ohio.

At EduVerse, we're passionate about helping educators navigate the evolving world of AI. In this special edition on **AI and Us,** we're spotlighting two powerful, free resources to support your AI teaching journey.

Whether you're just starting or looking to deepen your practice, these tools are here to help you and your students thrive in the AI era.

CRAFT: CLASSROOM-READY RESOURCES ABOUT AI FOR TEACHING

CRAFT is a free, multidisciplinary collection of AI literacy resources for high school educators, co-created by Stanford's Graduate School of Education and the Institute for Human-Centered AI. These ready-to-use lessons help students explore, question, and critique AI through engaging topics like AI bias, ChatGPT, and AI in music or marine science. Use a quick activity or a full lesson series—CRAFT is flexible, adaptable, and always growing.
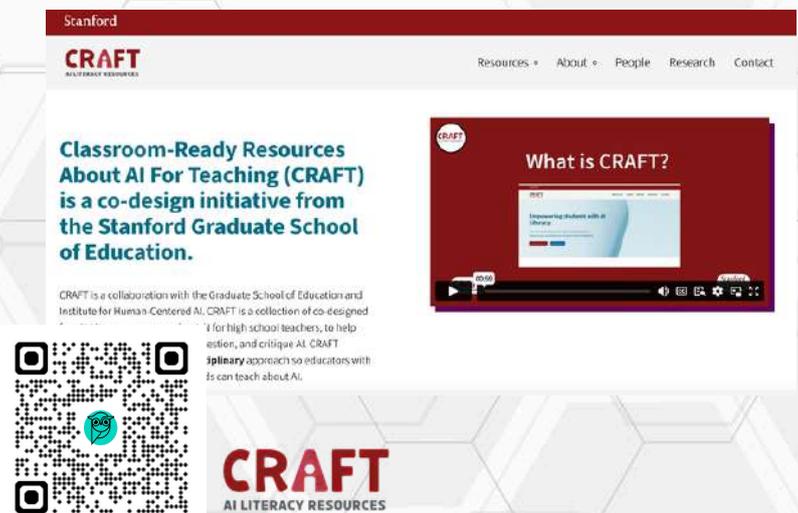
OPENAI ACADEMY
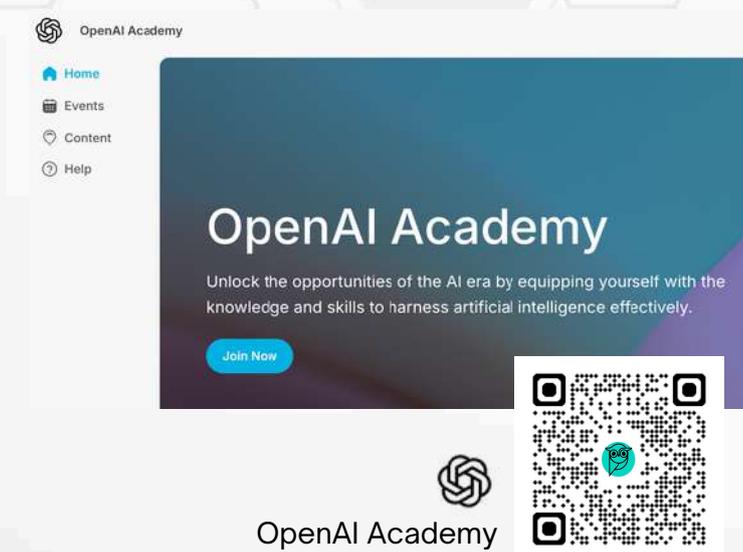
Unlock the opportunities of the AI era by equipping yourself with the knowledge and skills to harness artificial intelligence effectively. OpenAI Academy offers accessible, practical learning designed to empower individuals from all backgrounds—whether you're an educator, student, or professional. Through hands-on activities, real-world examples, and expert guidance, you'll build a strong foundation in AI literacy and develop the confidence to navigate and apply AI tools responsibly and creatively in your work and daily life.

AI & HUMAN

This is What Harmony Looks Like

Maurie Beasley

A fifth grader pulled out his phone and proudly showed me that his parents paid for a ChatGPT subscription. Same day, down the hall, another student asked if he could take home a sack of food so he'd have something to eat for dinner.

That's the classroom reality AI just walked into.

AI is not entering a sterile lab or a neat little pilot program; it's walking into schools filled with noise, compassion, behavior plans, state tests, unexpected emergencies, and some of the most talented, exhausted people you'll ever meet, teachers.

So when people ask me, "Is AI going to replace teachers?" I smile and think, Replace them? AI doesn't even know what it's signed up for.

Before we talk about AI's potential, we have to talk about teachers' reality. The reality is that Teachers have bigger fish to fry.

Every week, I'm in classrooms. I talk to teachers who are juggling Individualized Education Plan (IEP) meetings, state testing stress, TikTok trends gone wild, and the 14 emails waiting for them after bus duty. Some already use AI, but mostly for time-saving tasks, a quick parent email, a cleaner rubric, or a gentle reminder that they're not alone.

That's the real teacher-AI harmony right now. Not futuristic robots replacing instruction. Just smart tools helping teachers get through the day without feeling like they're drowning.

One teacher I worked with, let's call her Mrs. B, was ready to quit. Her lesson plans, grading, and after-hours responsibilities had taken over her life. After just a few sessions with AI training, she was leaving by 5 p.m. and spending Saturdays with her family again. When her husband reached out to say "thank you," I cried. Not because AI saved the day, but because it helped her stay.

Let me say this clearly: AI is not here to replace teachers. AI doesn't steal the magic, it saves it.
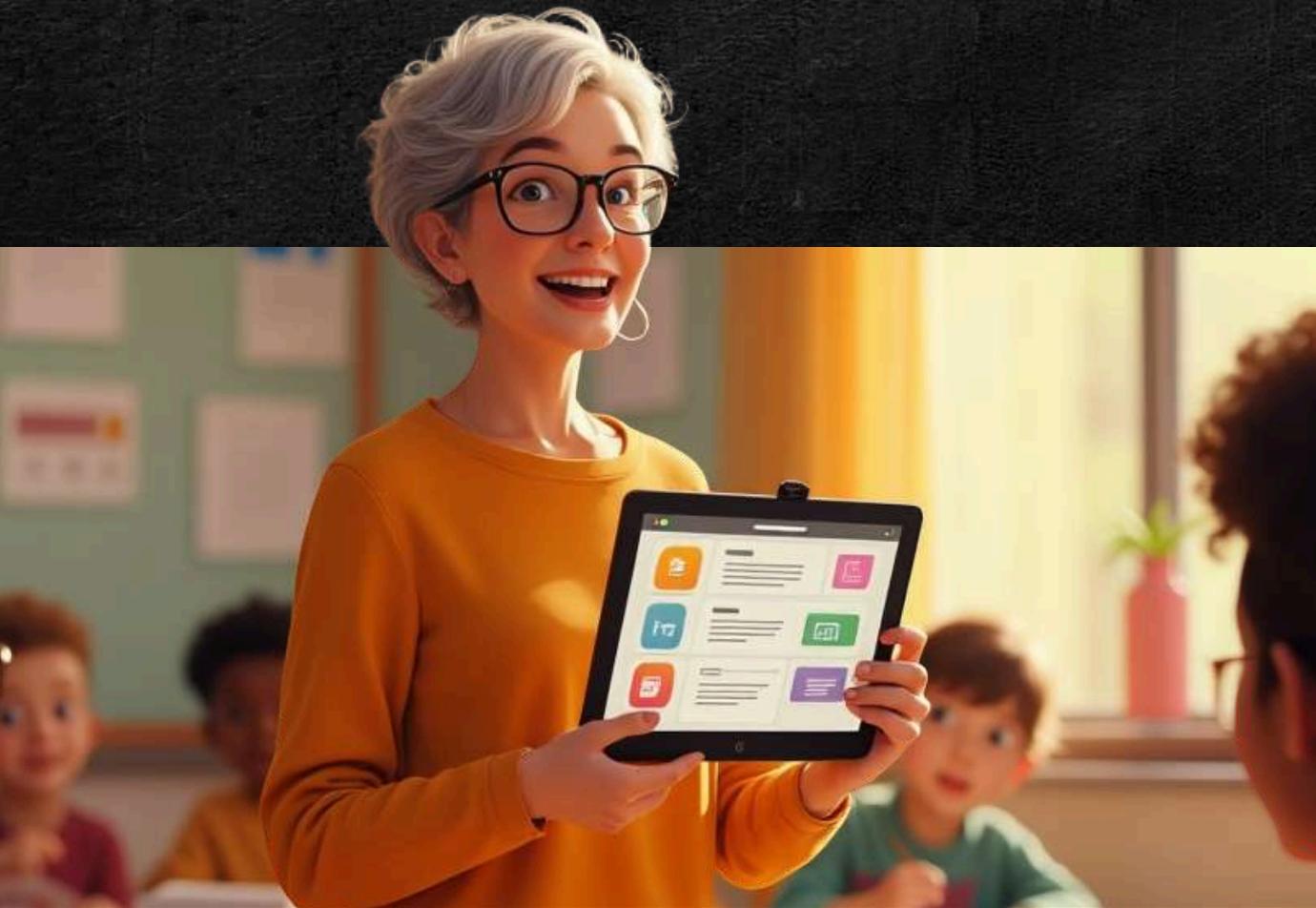
Another teacher in our AI Trailblazer program, Mrs. S, was a veteran with decades of experience. She was planning her retirement, convinced the system no longer had space for creativity or connection. Then she started using AI to build more engaging, targeted learning activities. Her students responded instantly. Her spark came back. She decided to stay.

That's the harmony we're after. Not a tug-of-war. A duet.

What do we need in K12 Education? We need AI that works for schools.

I've sat on both sides of the table, the educator's chair and the IT desk. And I can tell you that one of the biggest reasons AI tools fail in schools is that they were never designed for schools in the first place.

Education has always had to adapt to tools made by outsiders. It's time the tools adapt to us.

That's why we created Agnes, an AI toolbox built for real classrooms, not ideal ones. Agnes doesn't try to take over. It offers a secure, adaptable way for teachers to get support and for IT departments to keep control. There are no black boxes, no surprise charges, just a system that respects both the teacher's workflow and the district's guardrails.

AI doesn't have to be flashy to be effective. It just has to listen to teachers, students, administrators, and tech directors alike.

proed.com.vn

The other thing we have to think about is that AI isn't neutral.

If we're not intentional aboutequity, it can reinforce bias,make us inaccessible, and deepen divides.

But it can also be a bridge.

In our rural district, not every studenthas access to a tutor, speech therapist, or even reliable internet. But with carefully vetted AI tools, we can start to close those gaps. Students can get extra reading support. Parents can translate school communication. Teachers can access strategies for diverse learners without waiting for the next conference or PD day.

And here's the key: AI literacy isn't just for the kids in coding clubs. It's for the student who needs a voice, the teacher who needs a break, the administrator who needs insight without losing hours to spreadsheets. In other words, everyone.

Working in harmony doesn't mean perfection. It means finding rhythm in chaos.

In one of our Trailblazer classrooms, a teacher had a new student who was constantly disruptive. She spent every day redirecting, correcting, and trying not to lose the rest of the class in the process. We used AI to help her track patterns, identify triggers, and generate custom calming strategies. That student still struggles, but the teacher no longer feels alone on an island.

That's harmony.
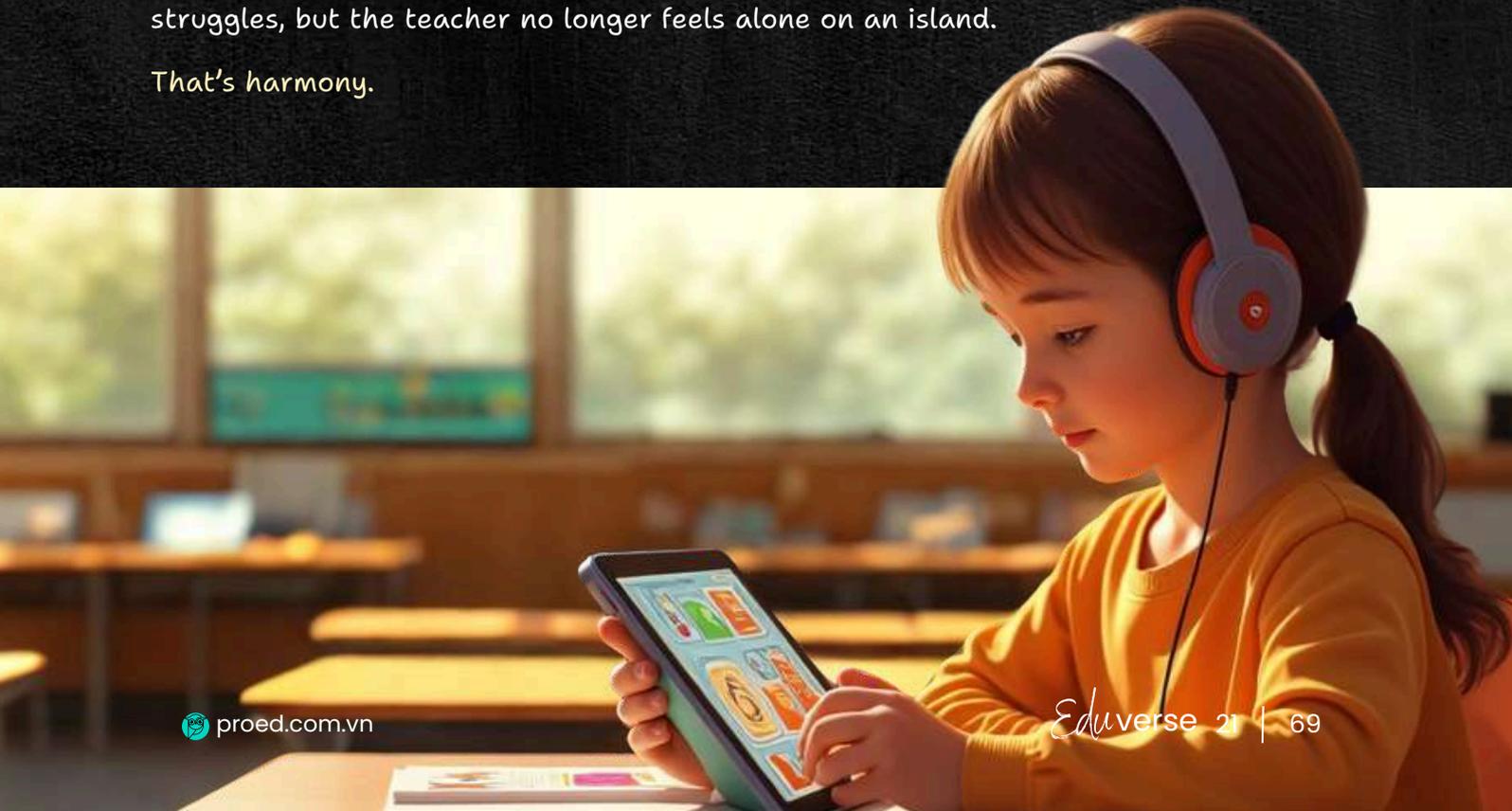
It's not AI replacing teachers, and it's not teachers resisting tech. It's just a smarter system in which the tech handles what it can, and the teacher does what only a human can do.

This isn't the future. It's the fix.

We don't need AI to revolutionize education in one big swoop. We need it to help us fix what's already broken: one exhausted teacher, one forgotten student, and one overstuffed inbox at a time.

If AI can give teachers back their evenings, give students more attention, and give schools more transparency and control, that's not science fiction. That's *support*.

And that's what harmony looks like.

Maurie Beasley, M.Ed., is the Co-Founder and CEO of AI Education Professionals. A former classroom teacher and assistant principal, she now works daily in a K–12 technology department while leading AI training programs nationwide. Maurie is also the creator of Agnes, an AI toolbox designed for real classrooms, not ideal ones. She speaks, writes, and trains on how AI can support the real work teachers do every day.

AI-ENHANCED FORMATIVE ASSESSMENT

PREPARING FUTURE ELT TEACHERS FOR A DIGITAL ERA

Dr. Kamil Mielnik

Formative assessment, the process of continuously evaluating student progress to tailor instruction, is a cornerstone of effective teaching, particularly in English Language Teaching (ELT). Yet, its systematic integration into pre-service teacher education across Europe remains inconsistent. Compounding this challenge is the rapid rise of AI in education, which offers transformative potential for assessment practices but demands new competencies from educators.

A recent study by Kamil Mielnik, conducted across six European countries—Poland, Spain, the United Kingdom, Italy, the Czech Republic, and Ireland—explores how teacher preparation programs can better equip pre-service ELT educators with the skills to implement formative assessment, with a particular emphasis on leveraging AI tools. This article synthesizes the study's findings, highlighting the critical role of AI-informed competencies in preparing future teachers for modern classrooms. As AI reshapes educational landscapes, teacher education must evolve to ensure educators can harness its benefits while maintaining pedagogical control.

METHODOLOGY
A MIXED-METHODS APPROACH

The study employed a mixed-methods design to capture a comprehensive view of pre-service ELT teachers' readiness for formative assessment and AI integration. It involved 188 final-year trainees from eight institutions across the six countries. The research unfolded in three phases:

- **Quantitative survey:** A 45-item questionnaire assessed trainees' knowledge, confidence, and attitudes toward formative assessment and AI tools. Distributed online, it achieved a 94% response rate, providing a broad baseline of trainee perspectives.

- **Qualitative EPOSTL reflections:** A subset of 48 participants engaged with the European Portfolio for Student Teachers of Languages (EPOSTL), self-assessing their assessment competencies and reflecting on strengths and weaknesses. This phase focused on formative assessment skills and any mention of technology use.

- **Focus group interviews:** Ten participants from the reflection phase participated in semi-structured discussions, exploring their experiences with formative assessment, EPOSTL reflections, and perceptions of AI's role in education. Conducted via video conference, these sessions provided nuanced insights into trainees' hopes and concerns.

This sequential design allowed for triangulation, combining broad trends with in-depth qualitative insights. Participants, primarily female (79%) and aged around 23.5 years, were in their final year of master's or post-baccalaureate programs, ensuring relevance to near-future classroom contexts.

RESULTS

GAPS IN CONFIDENCE AND AI READINESS

The study revealed a strong theoretical understanding of formative assessment among trainees. However, confidence in practical implementation was moderate.

95%
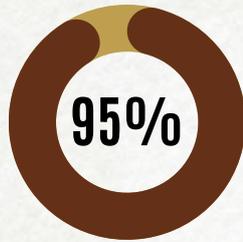
Trainees' understanding of Formative assessment
(correctly identify its characteristics)

4.5/5

Perceived importance of formative assessment
(4.7/5 rating)

30%

Confidence in using self- and peer-assessment

32%
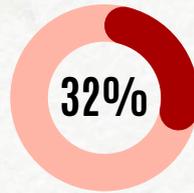
Adjusting teaching based on assessment results

70%
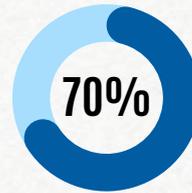
Confidence in using AI-based assessment tools
(reporting low self-efficacy due to minimal exposure)

10%

Exposure to AI tools for assessment
(Only 10% Tried Tools Like ChatGPT)

EPOSTL reflections revealed specific weaknesses, including:

- Designing formative assessment tasks
- Providing constructive feedback
- Implementing peer assessment

These gaps were often attributed to limited practicum opportunities.

Technology, including AI, was rarely mentioned, indicating that it is not yet integral to trainees' assessment identity.

Focus group insights aligned with these findings, showing:

- Strong enthusiasm for formative assessment
- Recognition of practical barriers, such as curriculum pressures

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Perceptions of AI in education included:

- Seeing potential for time-saving tasks, such as quiz generation
- Concerns about reliability and ethical issues
- Acknowledgment of their own lack of preparedness
- A strong call for targeted training to build confidence and competence in using AI tools effectively

RECOMMENDATIONS
BUILDING AI-INFORMED COMPETENCIES FOR FUTURE ELT TEACHERS

The study underscores the urgent need to integrate AI literacy into teacher education, particularly for enhancing formative assessment practices. As AI tools become ubiquitous, pre-service ELT teachers must develop competencies to use them effectively and responsibly. Below, we elaborate on the study's recommendations for fostering AI-informed skills, drawing on its insights and the broader literature.

Embedding AI literacy in teacher education curricula

AI is not yet a staple in teacher training, but its growing presence in education necessitates targeted preparation. Trainees in the study expressed both curiosity and anxiety about AI, mirroring findings by Bae et al. (2024), who noted pre-service teachers' awareness of AI but reluctance due to uncertainty. To address this, teacher education programs should introduce AI literacy modules covering:

Understanding AI basics: Demystifying how AI tools function to reduce apprehension. For example, explaining how natural language processing powers tools like ChatGPT can make them less intimidating.

Categorizing AI tools: Familiarizing trainees with tools for teaching and assessment, such as automated feedback systems (e.g., Grammarly), adaptive quizzing platforms, or intelligent tutoring systems. This knowledge helps teachers select appropriate tools for specific tasks.

Critiquing AI outputs: Teaching trainees to evaluate AI-generated feedback or content for accuracy and relevance. This skill is crucial, as focus group participants noted instances of irrelevant or contradictory AI feedback.

Applying AI pedagogically: Guiding trainees to integrate AI tools into lesson plans, ensuring they enhance rather than replace human judgment. For instance, using AI to generate draft quiz questions allows teachers to focus on curating and contextualizing them.

Navigating ethical issues: Addressing data privacy, algorithmic bias, and transparency, especially under GDPR regulations in Europe. Trainees should understand how to vet AI tools for compliance and communicate their use to stakeholders.

These competencies can be developed through dedicated workshops. For example, a session could involve trainees role-playing as students, submitting writing samples to an AI feedback tool, and then critiquing the output as teachers. Such hands-on activities, as suggested by the study, help trainees experience AI's strengths (e.g., speed) and limitations (e.g., lack of contextual understanding), fostering a balanced perspective.

Integrating AI into practical assignments

To bridge theory and practice, teacher education programs should embed AI tools into coursework. The study proposes having trainees use AI to create assessment materials, such as quizzes or exercises, and refine the outputs. This approach mirrors the transformative impact of calculators in math education: AI reduces time spent on routine tasks, allowing teachers to focus on higher-order skills like interpreting results and personalizing instruction.

For instance, trainees could use an AI item generator or ChatGPT to draft a vocabulary quiz, then edit it to align with curriculum goals and student needs. This exercise teaches critical editing skills, as AI outputs often require human refinement to ensure pedagogical soundness. As the study notes, this "teacher-in-the-loop" approach, inspired by Codio's design principle, ensures AI augments rather than supplants human judgment. Programs could also assign projects where trainees design formative assessment tasks using AI-driven analytics to identify student misconceptions, reinforcing data interpretation skills.

Promoting a balanced mindset toward AI

The study's focus groups revealed a nuanced view: trainees see AI as a time-saving ally for tasks like generating practice exercises but are wary of over-reliance or loss of teacher agency. This aligns with Burner et al. (2025), who found that AI-generated feedback is most effective when vetted by teachers within a defined pedagogical framework. Teacher educators should cultivate this balanced mindset by framing AI as a "powerful helper" that requires oversight.

Practical strategies include case studies where trainees analyze real-world AI integration, such as AI feedback systems in language classrooms. Discussions can explore how teachers maintain control, such as by setting parameters for AI tools or combining AI feedback with personalized comments. Trainees should also learn where AI is less suitable, such as assessing creative writing or oral skills, where human insight remains paramount. This approach ensures AI enhances formative assessment without undermining the human element central to teaching.

Establishing AI standards and cross-country collaboration

The study highlights shared challenges across the six countries, suggesting a need for standardized AI competencies in teacher education. Curriculum makers should align with frameworks like the European Digital Competence Framework for Educators (DigCompEdu), which advocates for digital skill integration. Accreditation standards could mandate that graduates demonstrate proficiency in using AI for formative assessment, incentivizing institutions to allocate resources for training.

Cross-country collaboration can amplify these efforts. The study notes varying familiarity with formative assessment and AI across countries, with the UK and Ireland showing stronger policy emphasis on assessment for learning. An EU-funded initiative, such as an Erasmus+ project, could develop shared training modules on AI-enhanced formative assessment, tailored to local contexts. For example, countries with limited device access might prioritize low-tech AI solutions, while those with traditional learning cultures could focus on gradual integration. Sharing best practices through such projects ensures universal competencies while respecting regional differences.

Preparing teachers for student AI use

As AI becomes accessible to students, teachers must guide its appropriate use. Focus group participants expressed concerns about students misusing tools like ChatGPT for homework, highlighting a need for classroom management skills in the AI era. Teacher education should include strategies for setting boundaries, such as teaching students to use AI for learning (e.g., generating practice questions) rather than bypassing effort. Trainees could practice creating guidelines for AI use or detecting AI-generated work, ensuring they maintain academic integrity while leveraging AI's benefits.

FUTURE-PROOFING ELT TEACHERS
WITH AI COMPETENCIES

The integration of AI into formative assessment represents both a challenge and an opportunity for ELT teacher education. While pre-service teachers recognize AI's potential to streamline feedback and personalize learning, their limited confidence and exposure underscore the need for intentional training. By embedding AI literacy, practical assignments, and ethical considerations into curricula, teacher education programs can prepare educators to use AI as a pedagogical ally.

However, this preparation must be more than technical. It must be human-centered, fostering critical thinking, ethical awareness, and pedagogical discernment. As AI becomes an increasingly pervasive part of classrooms, ELT educators must not only know how to use these tools—but also when, why, and to what extent.

In shaping the ELT educators of tomorrow, we must equip them not just with digital tools, but with the mindset to navigate complexity, the skills to adapt, and the wisdom to keep the human touch at the heart of education.

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Dr. Kamil Mielnik is an expert in competency-based learning, AI-driven teaching, and international training development, with nearly 20 years of experience in language education and digital L&D solutions. He currently serves as Competence Development Manager at InPost, leading strategic learning programs across Europe to enhance skills and operational efficiency. He also heads the Interdepartmental Foreign Language Study Centre at Ignatianum University, where he drives research-based language education initiatives.

ARTIFICIAL INTELLIGENCE INDEX REPORT 2025

The **Artificial Intelligence Index Report 2025**, by Stanford University Human-Centered Artificial Intelligence, now in its eighth edition, offers a sweeping view of AI's deepening impact across society, the economy, and global governance. The message from the co-directors is clear: **AI is no longer a distant possibility—it is a present reality we are actively shaping.**

For the first time, the report devotes an entire chapter to education. It distinguishes between AI in education, AI literacy, and AI education—urging educators to shift focus toward preparing not just critical users of AI, but builders of it. The findings underscore both remarkable progress and urgent challenges.

As the report makes evident, the evolution of AI demands equally robust governance. With rising incidents of AI misuse and growing international collaboration on AI policy, the importance of ethical frameworks and equitable access to AI education has never been greater. Building a responsible AI future will require aligning policy, pedagogy, and practice—starting in our classrooms.

Here are the 12 key takeaways.

1. AI performance on demanding benchmarks continues to improve.
2. AI is increasingly embedded in everyday life.
3. Business is all in on AI, fueling record investment and usage, as research continues to show strong productivity impacts.
4. The U.S. still leads in producing top AI models—but China is closing the performance gap.
5. The responsible AI ecosystem evolves—unevenly.
6. Global AI optimism is rising—but deep regional divides remain.
7. AI becomes more efficient, affordable and accessible.
8. Governments are stepping up on AI—with regulation and investment.
9. AI and computer science education is expanding—but gaps in access and readiness persist.
10. Industry is racing ahead in AI—but the frontier is tightening.
11. AI earns top honors for its impact on science.
12. Complex reasoning remains a challenge.
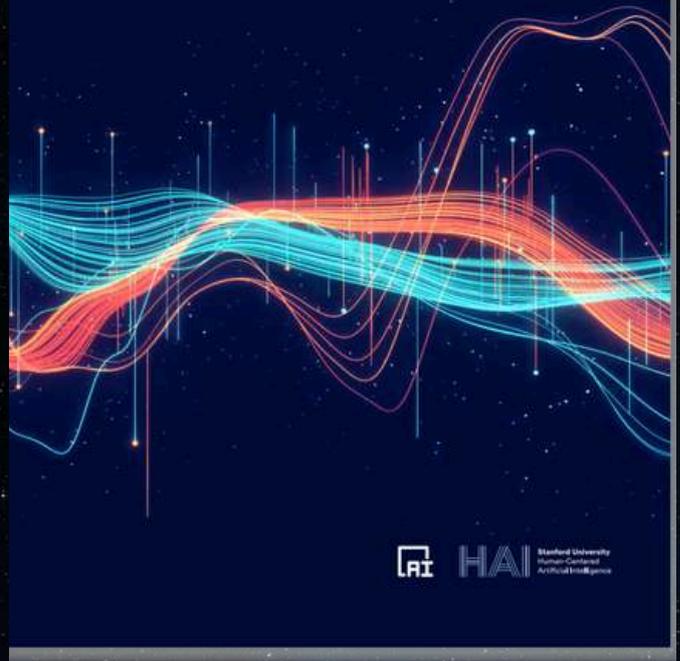
INTEGRATING

Shahida Rehman

HUMANISTIC PRINCIPLES

IN THE AGE OF AI-AUGMENTED EDUCATION

Across global educational landscapes, from crowded cities to spread-out rural areas, the integration of AI is progressively shaping teaching and learning. This technological change goes beyond just future ideas, emerging as a real influence in contemporary pedagogical practices. AI offers the potential to facilitate individualized learning paths, furnish educators with data-driven insights, and unlock new learning opportunities. However, as AI becomes more and more part of school settings, a key question arises:

Does this use only aim to automate teaching processes, or does it aim to keep the lasting importance of humanistic values and personal relationships in the learning approach?

Initial applications of AI in education have mainly focused on enhancing efficiency through automation, as seen in automatic test grading and immediate feedback on routine exercises. While such applications can yield benefits in terms of time management for educators and prompt support for learners, the core of education extends beyond just sharing and checking knowledge, but also in developing critical thinking, encouraging creativity, building social and emotional skills, and creating strong relationships between students and teachers. Without human guidance, automated systems risk turning education into a mechanical process, missing the spark of curiosity and connection that drives true learning.

▷▶ THE LIMITS OF FULL AUTOMATION IN EDUCATION

Despite the seen advantages of complete automation in education, including scalability, cost-effectiveness, and the provision of extensive datasets, there are natural limits. Algorithmic systems, no matter how advanced, cannot fully copy the detailed understanding, natural empathy, or spontaneous creativity characteristic of human educators. An AI system might identify a learner's struggle with a specific math concept, yet it lacks the capacity to identify the underlying cause of this struggle, which could be low confidence, a lack of foundational understanding, or external distractions. For instance, a teacher might notice a student's frustration stems from family issues and offer encouragement, something an AI cannot replicate. The role of the human instructor remains crucial in providing individualized support helped by empathy and a holistic understanding of the learner's situation.

Education is not just a solo activity; it is naturally social and collaborative. While AI can facilitate connections among learners, it cannot fully replicate the natural interactions, unplanned dialogues, and collaborative problem-solving that characterize dynamic human learning communities. These interactions are essential for the development of communication skills, the cultivation of diverse perspectives, and the acquisition of socio-emotional intelligence to handle the challenges of today's world.

▷▶ MOVING BEYOND AUTOMATION
FOCUSING ON HUMAN VALUES IN AI-SUPPORTED LEARNING

This discussion highlights the need to move beyond a sole focus on automation in AI for education and to prioritize including human values. This requires a careful and varied approach in several key areas:

1 EMBEDDING EMOTION-SENSING TECHNOLOGY FOR SOCIO-EMOTIONAL DEVELOPMENT

AI systems are starting to use emotion analysis to understand students' feelings. For instance, a math learning app might detect indications of frustration and offer adaptive support. However, understanding this data needs the situational understanding and empathy of a human teacher. In socio-emotional learning curricula, AI-powered virtual reality can create hands-on learning experiences with human facilitators guiding reflection and connecting virtual scenarios to real-world contexts. For instance, a virtual reality program might simulate a conflict scenario, allowing students to practice empathy, while a teacher facilitates a follow-up discussion to reflect on real-world applications, ensuring emotional growth is meaningful.

2 USING AI TO ENCOURAGE CURIOUS INVESTIGATION AND CRITICAL THINKING

Instead of just providing answers, AI should spark curious investigation. Consider an AI-driven research tool capable of analyzing large datasets to identify patterns that can encourage student questions. The teacher's role is then guiding students in formulating relevant questions and critically evaluating the AI-generated findings. In creative subjects, AI can generate new artistic or musical forms that serve as a starting point for students' own creative work, with teachers giving feedback on artistic value and idea depth. An AI tool might generate a unique painting style, prompting students to create their own versions, while teachers discuss the emotional impact and cultural context of their work, fostering deeper creative thinking.

3 ENHANCING PERSONALIZED TEACHING WHILE KEEPING HUMAN SUPPORT

AI can facilitate the personalization of learning pathways through the analysis of learner performance data. However, this data-driven adaptation must be paired with the n guidance and support of human teachers who understand individual learning styles, motivations, and goals. In higher education, AI might assist in matching students with research opportunities, but teacher guidance remains crucial for guiding research methodologies and career paths. For instance, AI could suggest a biology research topic based on a student's strengths, but a professor's mentorship helps the student refine their hypothesis and connect their work to broader scientific questions, ensuring personal growth.

4 INCLUDING ETHICAL GUIDELINES IN AI DESIGN AND USE IN EDUCATION

Strong ethical guidelines must guide the use of AI in schools, addressing concerns related to data privacy, algorithmic bias, and equitable access. Human oversight is essential to develop and check AI-based grading tools to reduce possible biases. Furthermore, teachers bear the responsibility to teach digital responsibility and ethical technology use through lessons and discussions. Teachers can lead classroom debates on how AI collects student data, helping students understand privacy and advocate for their rights.

5 FACILITATING COLLABORATIVE LEARNING AND COMMUNITY BUILDING IN AI-ENHANCED SETTINGS

While AI can facilitate virtual connections among learners, creating a positive and inclusive learning community is the role of human teachers. Teachers can design collaborative activities that foster empathy and mutual understanding among diverse learners. In online learning environments, teachers can utilize AI analytics to identify potentially isolated learners who feel left out and actively help them feel connected. In an online class, for example, teacher might use AI analytics to identify a quiet student and pair them with a supportive peer group, fostering a sense of belonging through collaborative projects.

THE EVOLVING ROLE OF THE EDUCATOR
IN AN AI-INFUSED EDUCATIONAL LANDSCAPE

The integration of AI necessitates a transformation in the role of educators, who will increasingly function as facilitators, mentors, and guides, using AI tools to enhance their teaching effectiveness and personalize lessons. This requires ongoing professional development focused on data literacy, the critical evaluation of AI tools, and the cultivation of human connection in technology-rich environments. Training programs should include hands-on workshops on interpreting AI data, such as identifying patterns in student progress, as well as courses on fostering empathy in digital classrooms. Teachers also need guidance on selecting trustworthy AI tools, ensuring they align with educational goals and ethical standards. By investing in such training, schools empower teachers to blend technology and human insight effectively.

POLICY AND SCHOOL RESPONSIBILITIES
FOR HUMAN-FOCUSED AI IN EDUCATION

Schools and governments bear a significant responsibility in shaping how AI is used in education. This includes the development of ethical guidelines, investment in human-centered AI research and development, and comprehensive teacher training programs. Policies should prioritize transparency, requiring schools to inform families about how AI is used and how student data is protected. Research should explore how AI can support diverse learners, such as those with disabilities, by developing tools like AI-powered sign language interpreters. Global collaboration is essential to ensure equitable access to the benefits of AI in education. This is especially important in under-resourced regions, where AI can bridge gaps by offering online lessons or translated materials, though challenges like unreliable internet access must be addressed through infrastructure investments.

ADDRESSING CHALLENGES
AND EMBRACING OPPORTUNITIES

The integration of AI in education presents both opportunities and challenges, including concerns regarding data privacy, algorithmic bias, and the potential for technological over-reliance. Proactive engagement through open dialogue and rigorous research is essential to navigate these issues.

Despite these challenges, AI offers significant potential to enhance learning experiences. By prioritizing humanistic values, we can create more personalized, engaging, and effective learning environments. AI can empower teachers with enhanced insights into learner needs, fostering creativity, critical thinking, and teamwork.

THE FUTURE OF LEARNING
A SYNERGY OF HUMAN AND ARTIFICIAL INTELLIGENCE

The future of education will likely feature a cooperative relationship between human and artificial intelligence. While AI will serve as a powerful tool, the guiding principles must focus on human values, interpersonal connections, and the holistic development of each learner. This synergy can create classrooms where AI handles repetitive tasks, like grading, while teachers focus on mentoring, inspiring, and building community, ensuring education remains a deeply human experience.

As we continue to explore the transformative potential of AI in education, it is imperative to remember that technology is a tool, not the goal. Its impact will be determined by the values and intentions of its designers and users. By intentionally integrating humanistic values into AI-supported education, we can ensure a future of learning that is not only intelligent but also compassionate, creative, and truly transformative for all learners.

While AI will serve as a powerful tool, the guiding principles must focus on human values, interpersonal connections, and the holistic development of each learner.

Shahida Rehman Founder & CEO of Skilling Future, empowers educators through AI-powered tools, project kits, and professional development programs. With global expertise, she bridges traditional teaching and tech innovation, fostering engaging, personalized learning. Her mission is to equip educators with skills and confidence to thrive in a digital world—without losing the human touch.

A NEW ERA
IN STUDENT WRITING
BRIDGING MINDS AND MACHINES

HOW STUDENTS AND EDUCATORS ACROSS EUROPE AND NORTH AFRICA
ARE REDEFINING CREATIVE WRITING IN THE AI ERA

Fatma KUL

WRITING IN THE AGE OF AI
A NEW FRONTIER

The world of creative writing is undergoing a quiet revolution. For centuries, the act of writing has been a deeply human endeavor—an interplay of imagination, emotion, and intellect. Now, with the rise of AI, this age-old craft is transforming into a collaborative dialogue between humans and machines. At the forefront of this change is the eTwinning project, "Writing in the Age of AI: A New Frontier," led by educators and students from Türkiye, Italy, Romania, Croatia, Spain, Hungary, Slovakia, and Tunisia. The project explores not only how AI contributes to creativity but also how it reshapes the educational experience and challenges traditional notions of authorship and originality.

THE INTERSECTION OF AI AND CREATIVE WRITING
A NEW HARMONY

Creative writing is no longer confined to the solitary writer and the blank page. With AI tools like ChatGPT, Sudowrite, Jasper AI, and others, writers now have digital companions that can help spark ideas, develop plots, and even generate fully formed scenes or poems. These tools are not replacing writers but enhancing their capabilities, creating a new harmony where human creativity leads and AI assists.

In the eTwinning project, students were encouraged to experiment with these tools by inputting prompts or story themes. For example, Romanian students working on dystopian fiction used AI to suggest plot twists and develop minor characters, while Spanish students experimenting with flash fiction received alternative endings based on emotional arcs.

I was stuck with the ending of my short story. I gave the AI a summary and it gave me three possible conclusions— one of them inspired me to write something completely unexpected.

Ariana M., a student from Valencia, Spain

This harmonious collaboration allowed students to remain the authors while inviting AI to act as a catalyst, helping them see new narrative paths they might not have discovered on their own.

ENHANCING WRITING SKILLS THROUGH PERSONALIZATION AND FEEDBACK

One of AI's most powerful contributions to education lies in its ability to personalize learning. Tools like Grammarly, ProWritingAid, and QuillBot offer real-time suggestions not just on grammar, but on tone, structure, clarity, and coherence. For young writers, this feedback is immediate and actionable—allowing them to grow faster and become more confident.

In the project, Italian and Tunisian students collaborated on bilingual poetry. AI tools were used not only to translate but to preserve tone and emotion across languages.

We used AI to translate metaphors from Arabic into Italian. But we didn't stop there—we asked the students to revise the translation, discuss which feelings were preserved or lost, and rewrite the lines. It was a powerful lesson in language and emotion.

Amel K., an educator from Tunisia.

This use of AI nurtured both technical and emotional intelligence, enhancing students' understanding of tone, rhythm, and word choice across cultural contexts.

FOSTERING CROSS-CULTURAL COLLABORATION THROUGH AI

One of the most exciting outcomes of the eTwinning initiative was how AI facilitated cross-cultural creativity. With participants spread across eight countries, overcoming language barriers was essential. Tools like DeepL and Google Translate helped bridge these gaps, but platforms like Padlet and Miro added collaborative magic.

In a standout project, Croatian and Hungarian students reimagined folk tales. Using AI, they extracted traditional motifs (e.g., forest spirits, wise animals, heroic journeys) and remixed them with science fiction elements.

It was so fun to see how our traditional stories could turn into something futuristic with the help of AI. We kept the heart of the story but changed the setting to space!

Dominik L., a student from Zagreb

This blend of heritage and innovation showcased AI's role not just in storytelling but in preserving and transforming cultural identity.

CHALLENGES AND ETHICAL CONSIDERATIONS
THE ROLE OF EDUCATORS

While AI unlocks many doors, it also raises important ethical questions. Who owns a story co-written with AI? What happens to foundational writing skills if students lean too heavily on these tools?

Educators in the project addressed this head-on by encouraging critical reflection. Before and after using AI, students completed self-assessments: How much of the work was their own? How did AI help, and where did it fall short? This helped nurture digital literacy and ethical thinking.

Data privacy was also a key concern. Project leaders ensured all tools used complied with GDPR (General Data Protection Regulation) and other international standards. Students learned not only to write with AI but to use it responsibly.

We don't want students to see AI as a shortcut, but as a mirror and mentor. It helps them see their own writing in a new light, but they are always the authors.

Prof. Elif D., project coordinator from Türkiye

ACTIONABLE TAKEAWAYS
FOR EDUCATORS AND STUDENTS

For those looking to integrate AI into creative writing, the
eTwinning project offers several practical strategies

Start with prompts

Ask students to give AI a prompt and analyze the output critically. The focus is not just on accepting AI's output, but on sharpening critical thinking—analyzing the text for style, coherence, creativity, and originality. This practice teaches students to become active editors rather than passive consumers of AI content.

Compare drafts

Encourage students to write a complete first draft on their own. Then, have them use AI to revise or expand it. Students should discuss the AI's changes—what improved, what lost authenticity, and what they would keep or discard. This comparison cultivates an editorial mindset and highlights the human element in storytelling.

Host AI vs. Human challenges

Turn learning into a fun competition! Students create two stories—one entirely their own, one with AI assistance. Anonymous voting by peers can reveal surprising insights about the strengths and weaknesses of both approaches.

Use AI as a language bridge

In multilingual classrooms, use AI to explore translation nuances and poetic expression across languages. Students can translate their writing using AI and then critique how meaning, tone, or cultural nuances shift. This approach deepens language appreciation and fosters cross-cultural empathy.

Develop AI literacy

It's not enough to know how to use AI; students must understand when and why to use it responsibly. Lessons should cover the basics of algorithmic bias, potential inaccuracies, copyright considerations, and the ethical boundaries of AI-assisted writing.

A FUTURE OF CO-CREATION
LOOKING AHEAD

As AI evolves, its capacity to co-create will only deepen. We may soon see AI that understands personal writing styles, adapts to emotional cues, or co-authors interactive, branching narratives with students.

But no matter how advanced the tools become, the heart of storytelling remains human. What the eTwinning project has shown is that when guided thoughtfully, AI doesn't dim the creative spark—it fans the flame.

Writing with AI made me feel like I had a writing partner who never got tired. But the ideas still came from me. AI just helped me bring them to life.

Katarina S., a student from Slovakia

AI is not replacing writers—it's redefining how we write, learn, and collaborate. Through thoughtful integration and guided exploration, the "Writing in the Age of AI: A New Frontier" project has illuminated how technology can enhance creativity, bridge cultures, and elevate the educational experience. As we move forward, let us embrace this new harmony between human imagination and machine intelligence—with curiosity, care, and creativity.

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AI tools in the article

sudo write   Jasper
ProWritingAid   grammarly
QuillBot   ChatGPT
Google Translate   DeepL
Padlet   miro

Fatma KUL is an experienced English teacher with a strong passion for innovative, project-based learning. Since 2004, she has been committed to fostering engaging and inclusive educational environments. She holds a Master's degree in English Language Teaching (ELT) and currently teaches at 50. Yıl Secondary School in Salihli, Türkiye, a public institution serving over 1,300 students.

BLENDING BRAINS AND BOTS

A CASE STUDY IN AI-ASSISTED COURSE DEVELOPMENT

Sara Davila

When faced with the challenge of developing ten high-quality asynchronous courses for English teachers around the world — all within a short timeline and with high expectations — the obstacles seemed almost insurmountable. Numerous factors had to be considered, from varying levels of teacher experience to diverse teaching contexts. As the team lead, I collaborated with Mary Scholl and Kim Carroll, two deeply experienced teacher educators and curriculum specialists. Together, we brought decades of expertise in English language teaching, learning design, and professional development. Although the task felt impossible at times, we didn't pause to wonder if AI tools like ChatGPT could solve it for us. Instead, we stayed focused on what needed to be done — and built a system that made it possible.

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BIG PROJECT
TIGHT TIMELINE

The project included the development of ten asynchronous courses for teachers from diverse contexts, representing varied levels of experience with English language learning, pedagogical knowledge of English language teaching, and personal ability in learning and communicating in English. These teachers lived in areas with different levels of access to devices and bandwidth and needed immediate, applicable training. From start to finish, we had less than 10 weeks to build completely developed and programmed drafts. There was no off-the-shelf solution that could meet the scope, scale, or specificity required. So, working together, we built and trained a custom GPT to support us as a junior writer, allowing us to focus on the details of developing and designing the content directly into the LMS to be deployed at scale.

DESIGNING FOR SCALE
BUILDING A CUSTOM GPT

The only way to move fast was to be structurally sound from the start. We used Bloom's Taxonomy (Anderson, 2001) to guide progression, Universal Design for Learning (UDL) to ensure accessibility, and principles of multimodal learning to keep inputs varied and engaging (Meyer, 2014). Content was leveled to A2+/B1 (CEFR) and aligned to descriptors from the Global Scale of English ensure precision across communicative competencies (Pearson, 2014).

We also applied experiential learning principles (Kolb, 1984) to design course content that would be relevant, relatable, and personally meaningful. Drawing on affective neuroscience of learning, we designed learning moments that encouraged educators to reflect on how new concepts connected to their lived experiences, professional environments, and immediate teaching realities (Immordino-Yang, 2016). This approach was essential for fostering emotional engagement and deeper cognitive processing, particularly in a self-paced, asynchronous format. In short, it was central to promoting fidelity of learning at scale.

The UDL

TRAINING THE MODEL

We trained a custom GPT using a curated set of training files derived from our own work, published materials, and contributions to the field. This provided the model with access to the language, tone, and instructional strategies that reflect our professional expertise. We then layered in localized context—specific pedagogical structures, institutional guidelines, course architecture, and curriculum design principles—to ensure that outputs aligned with the exact requirements of the project.

In addition, we trained the model on relevant learning frameworks, including CEFR and the Global Scale of English, in order to maintain consistent language leveling and ensure appropriate output for the target audience. This allowed the model to support the production of scaffolded content aligned to discrete objectives, linguistic targets, and implementation constraints without extensive manual redirection.
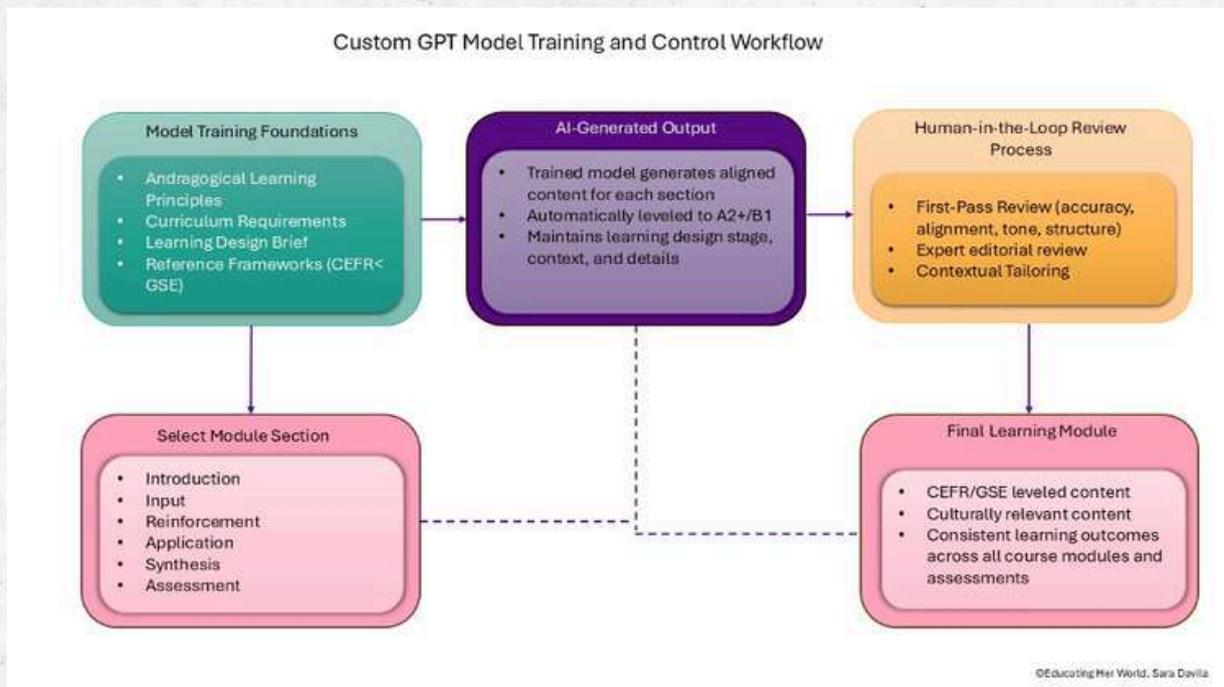
Custom GPT Model Training and Control Workflow

Model Training Foundations
- Andragogical Learning Principles
- Curriculum Requirements
- Learning Design Brief
- Reference Frameworks (CEFR< GSE)

AI-Generated Output
- Trained model generates aligned content for each section
- Automatically leveled to A2+/B1
- Maintains learning design stage, context, and details

Human-in-the-Loop Review Process
- First-Pass Review (accuracy, alignment, tone, structure)
- Expert editorial review
- Contextual Tailoring

Select Module Section
- Introduction
- Input
- Reinforcement
- Application
- Synthesis
- Assessment

Final Learning Module
- CEFR/GSE leveled content
- Culturally relevant content
- Consistent learning outcomes across all course modules and assessments

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Figure 1: Training the model to produce custom content

HUMAN-IN-THE-LOOP REVIEW
FROM OUTPUT TO USABLE CONTENT

Once the model was fully trained and aligned with our design architecture, we began generating content section by section, following the established instructional sequence: introduction, input, reinforcement, application, synthesis, and assessment. Each section was created through scaffolded prompts and structured constraints, ensuring alignment with the expectations defined in the learning design brief.

AI Generation
- Scaffolded prompts used to generate section-level content (Introduction, Input, Reinforcement, Application, Synthesis, Assessment).

First-Pass Review
- Lead content developer reviews output for structural coherence, tone, accuracy, and alignment to instructional goals.

Content Refinement
- Initial revisions made to improve clarity, emphasize key outcomes, reduce redundancy, and enhance flow.

Expert Editorial Review
- Subject matter experts revise content to strengthen pedagogy, improve learning connections, and embed reflective tasks.

Contextual Tailoring
- Final edits applied to localize terminology, adjust examples, and ensure accessibility for diverse teaching contexts.
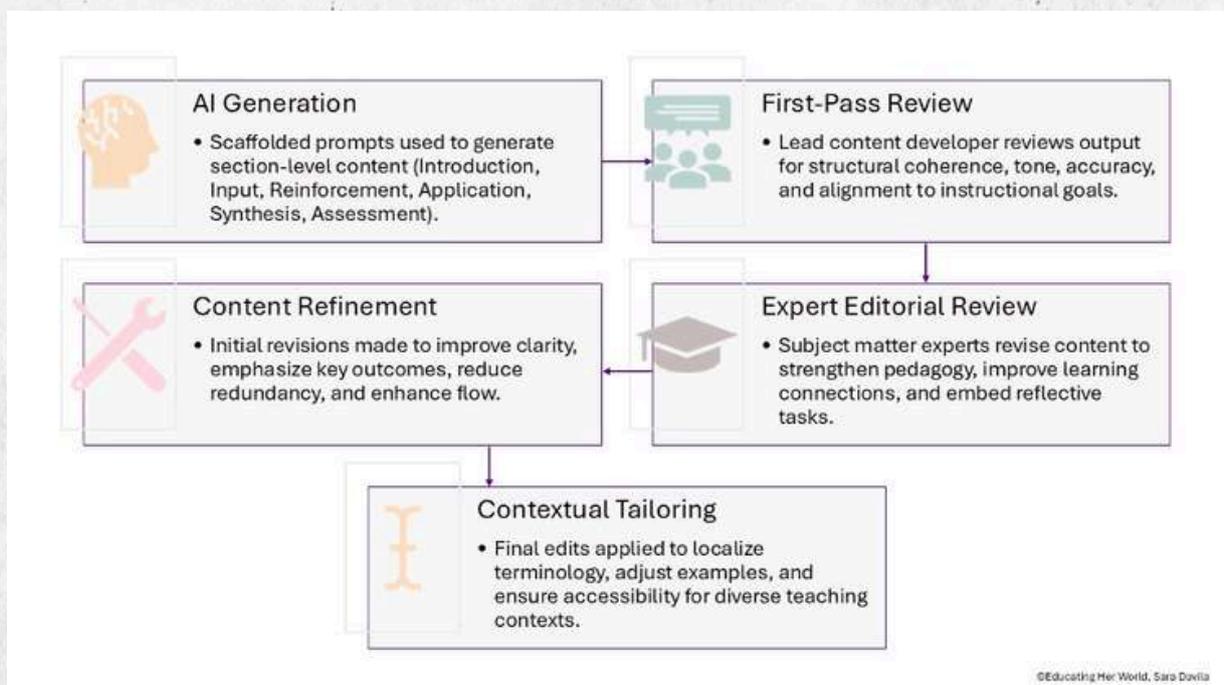
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Figure 2: Instructional review workflow for content development

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AI-generated content was never considered complete. The model served as a junior writer who could be fast and efficient, but required careful oversight. Every output underwent a first-pass review by the lead content developer, who checked for accuracy, structural coherence, and fidelity to course objectives. While initial drafts were often usable, they typically required revisions to improve clarity, emphasize key learning outcomes, and remove redundancy.

The second stage involved expert editing. This phase focused on pedagogical refinement, enhancing clarity and strengthening the link between course concepts and classroom application. We also incorporated reflective tasks to support adult learning, drawing on andragogical best practices. Finally, each module was tailored to the specific professional context of the audience. Language was adjusted for accessibility, scenarios were localized, and examples were aligned to the realities of the educators' working environments.

This multi-stage review process was essential to maintaining quality, and ultimately made development more efficient. By working with strong draft material, we were able to spend less time building from scratch and more time applying our expertise to elevate the content.

DEVELOPING WITH AI

LESSONS LEARNED

1 The challenge of consistency

The most difficult part of the project was ensuring AI-generated content met our design expectations, remained consistent across all courses and modules, and stayed true to our pedagogical frameworks. Small but persistent inconsistencies emerged, such as reordered content, subtle shifts in tone, or phrasing that slightly altered meaning. These weren't obvious errors but required careful review, as even minor inaccuracies could confuse educators or stakeholders approving the curriculum.

2 The need for thorough review

In order to maintain quality meant we carefully reviewed every word of output, treating the content as a draft to be fully developed with our human expertise. One key learning was that trying to force the model to produce the "correct" content was futile, as further interactions often introduced new deviations or incorrect concepts. Instead, a single, controlled draft followed by hands-on editing delivered stronger results and better consistency.

3 Ensuring a unified voice

To maintain a unified voice, we designated one person to produce all generated content. This ensured consistency in tone, instructional structure, and formatting across modules. The broader team focused on pedagogical integrity—confirming alignment to curricular specifications and validating relevance to the lived experiences of the educators the training was built for.

4 AI as a tool, Not a solution

AI was a useful tool, but only within a tightly designed instructional system. That system had to come first, and the development required the unique experiences and abilities of our team, our human expertise, and our knowledge of the teachers who would eventually bring this course to life fully top of mind.

CONCLUSION

This work showed what it takes to maintain quality at speed. It reinforced the importance of structure, clarity, and alignment across every part of the process. The complexity of the context demanded careful design, consistent review, and a team that understood the purpose of the work from the start. For educators considering how to use AI in their own practice, the key is that expertise remains essential. This project was successful because every decision was shaped by experience, guided by pedagogy, and reviewed with a deep understanding of the learners it was built for. The technology was part of the process, but the quality came from the people doing the work.

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Sara Davila, founder of Educating Her World, is an English Language Specialist who collaborates with institutions, policy organizations, and governments to design engaging, effective curricula for 21st century learning demands. She is a Global Scale of English Ambassador and a recognized innovator in language education. Learn more at educatingherworld.com.

Project Collaborators

Kim Carroll is an accomplished educator, trainer, and consultant with over two decades of experience in English language teaching, teacher training, and learning experience design. She is the founder and director of English for Life Academy in Greenville, South Carolina.

Mary Scholl's work has spanned across Latin America, Japan, Korea, Libya, South Sudan, and Saudi Arabia, where she has designed and implemented educational projects, often in collaboration with public institutions and ministries of education. She is the executive director at the Institute for Collaborative Learning in Costa Rica.

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3 What is your biggest hope for AI's impact on education in the coming years?

My biggest hope for AI's impact on education is that it will make learning truly inclusive and personalized for every learner, regardless of their background, ability, or location.

Dr. Meline Grigoryan
*Stanford University
Armenia*

Dr. Belachew Zerihun Dememe

*Debre Markos University
Ethiopia*

I think if the learners use it properly, it helps to boost their knowledge! However, they are dependent in doing exercises, tasks and other activties by using AI, they will not develop their skills!!

My biggest hope for AI's impact on education is that it helps create a more equitable, personalized, and inclusive learning experience for all students. AI has the potential to bridge learning gaps by adapting to individual needs, providing real-time support, and offering access to high-quality resources regardless of a student's background or location. I hope it empowers teachers with insights and tools that enhance—not burden—their practice, freeing them to focus on creativity, connection, and deeper learning. Most importantly, I hope AI supports a future where every learner feels seen, supported, and challenged in meaningful ways.

Neha Siddiqui
*Emirates International
School, UAE*

Ecehan Mercan

*Learn Language Easily
Online Language Academy
Turkiye*

My biggest hope is that AI can democratize education-making quality learning accessible to more people regardless of their geography or background. If used ethically, AI can support differentiated instruction, break language barriers, and provide real-time feedback, empowering both learners and teachers around the world.

Our greatest hope is that AI will help democratize access to high-quality, sustainability-focused education worldwide. We envision a future where every learner—regardless of geography or socioeconomic background—has access to personalized, SDG-aligned learning experiences. By embedding AI into everyday teaching tools, we can empower educators, inspire students, and accelerate progress toward a more inclusive, ethical, and sustainable world. At TimeSolutionsLearning, we're committed to making that vision a reality.

Dr. Irving Martinez
*Time Solutions Learning
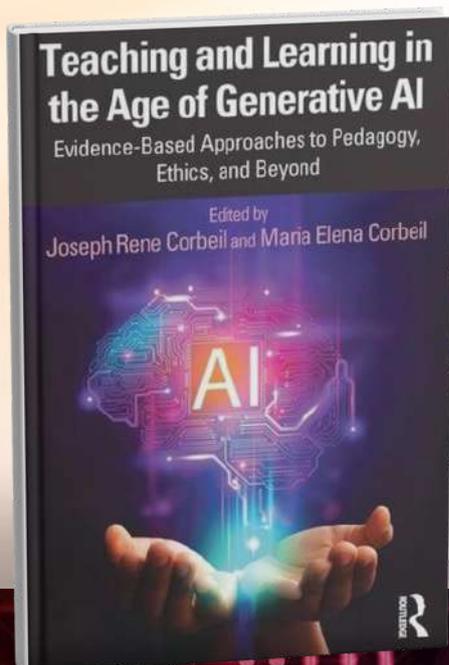Bolivia*

Teaching and Learning in the Age of Generative AI

Evidence-Based Approaches to Pedagogy, Ethics, and Beyond

Edited by Dr. Joseph Rene Corbeil & Dr. Maria Elena Corbeil

As education enters a new era shaped by generative AI, *Teaching and Learning in the Age of Generative AI: Evidence-Based Approaches to Pedagogy, Ethics, and Beyond,* published by Routledge Publishing, emerges as a vital resource for educators, policymakers, and academic leaders. This timely volume offers a comprehensive, research-informed exploration of how generative AI is transforming teaching, learning, and institutional practice—while emphasizing the ethical, responsible, and inclusive use of AI in education.

The book is co-edited by Professor **Joseph Rene Corbeil**, Professor of Educational Technology at The University of Texas Rio Grande Valley (UTRGV), who brings over 40 years of expertise in immersive learning, AI integration, and online innovation; and Professor **Maria Elena Corbeil,** also a Professor of Educational Technology at UTRGV, who has spent more than two decades advancing digital pedagogy, microlearning, and faculty development. Both editors are award-winning scholars and educators, deeply committed to empowering educators in the digital age.

What sets this book apart is its authentic, practitioner-driven approach. Contributions come from on-the-ground educators and experts who are actively integrating AI and emerging technologies into their teaching practice. The result is a rich, practical guide that addresses the real-world opportunities and challenges of AI in education.

The EduVerse Newsletter is excited to feature an intensive interview with Professors Corbeil, the acclaimed editors of *Teaching and Learning in the Age of Generative AI: Evidence-Based Approaches to Pedagogy, Ethics, and Beyond.* Explore their insights on the transformative role of AI in education and their vision of harmony where tech boosts, not replaces, what makes teaching and learning so human.

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Welcome to **Ask the Experts**, the ultimate column dedicated to professional development in the field of education. In this dynamic and ever-evolving field, continuous growth and learning are paramount. In each issue, we explore the most commonly asked topic by interviewing invited experts for their insights, experiences, and strategies.

EXCLUSIVE

Teaching and Learning in the Age of AI

CRITICAL MINDS SMART TECH

with

DR. JOSEPH RENE CORBEIL & DR. MARIA ELENA CORBEIL

EduVerse: Welcome to our exclusive interview series, "Ask the Experts," where we explore groundbreaking ideas and innovations shaping the future of education. Today, we are delighted to feature **Professors Maria Elena Corbeil** and **Joseph Rene Corbeil** from The University of Texas Rio Grande Valley, USA. They have co-edited the groundbreaking book, Teaching and Learning in the Age of Generative AI: Evidence-Based Approaches to Pedagogy, Ethics, and Beyond, which was just released last April. It's all about how AI can team up with human expertise to create an educational world where both shine.

In this conversation, we're exploring "AI and Us"—a vision of harmony where tech boosts, not replaces, what makes teaching and learning so human. Professors Corbeil share their insights on human-centered AI design, ethical use of technology, and how their new book lays out a roadmap for a collaborative, innovative, and empathetic educational future.

Dr. Joseph Rene Corbeil, Professor of Educational Technology at The University of Texas Rio Grande Valley, has over 40 years of experience in technology and distance education. He researches immersive learning, AI in education, and e-learning best practices. His award-winning work includes numerous honors for teaching, scholarship, and contributions to online learning innovation.

Dr. Maria Elena Corbeil, Professor of Educational Technology at The University of Texas Rio Grande Valley, has 20+ years of experience in online teaching and faculty mentoring. Her research explores microlearning, MOOCs, and digital pedagogy. She is an award-winning educator, author, and presenter, currently studying the impact of Gen AI on student learning and communication.

1 ✦ **Welcome Professors Corbeil. Let's dive right in with your book. What sparked the idea to edit Teaching and Learning in the Age of Generative AI, and what gap in education were you hoping to address?**

Oh, it all started with a bit of chaos! Just days before the Spring 2023 semester began, we got this email with the subject line **"Emergency Meeting to Discuss ChatGPT Concerns,"** and that's when we knew something big was happening. The message was clear: ChatGPT had just launched, and faculty across campus were panicking. Administrators were getting flooded with calls from instructors unsure how to handle this new AI tool that students now had instant access to.
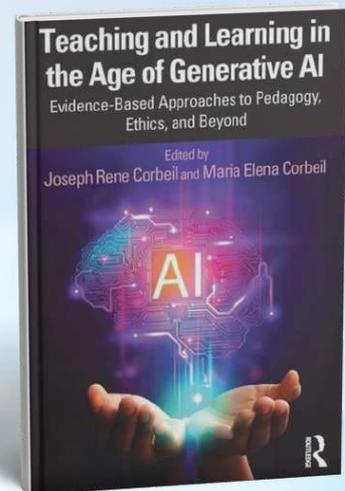
That email set off a chain reaction for us. We saw how quickly fear and uncertainty were taking hold in higher ed, sparking questions such as, Should we ban ChatGPT? How do we prevent cheating? What does this mean for the way we teach, or the policies we'll need moving forward? It became clear that while a lot of people were focused on the risks, very few were talking about how to respond productively and thoughtfully.

That's really where the idea for *Teaching and Learning in the Age of Generative AI* came from. We wanted to create something grounded, useful, and forward-thinking, a resource that doesn't just feed the panic, but helps educators understand the implications of generative AI and see it as an opportunity. The book addresses the big questions: How do we teach with AI, not just around it? What are the ethical, technical, and pedagogical considerations? And how do we prepare students for a future where AI isn't going away, but is becoming part of how we all live and work?

We saw a gap between the anxiety people were feeling and the guidance they were getting, and this book is our attempt to help close that gap.

> *The true value of AI in education will not be measured by its capacity to recall facts but by its ability to empower students to think, question and innovate.*
>
> *Xiangen Hu*

2 ✦ **That's such a vivid picture of the moment that kicked this off! Maria, pulling together a book like this must've been a journey. Was it tough to get authors on board, and do you have any fun or memorable stories from reaching out to your contributors?**

The time-consuming part was the initial research to identify potential contributors with experience with AI in education and talent development. But once we reached out, many were eager to join. They recognized, as we did, that AI isn't a passing trend, it's a paradigm shift with far-reaching implications for both education and workforce development. Collaborating with both new contributors and past colleagues from previous book projects made the experience even more rewarding.

What made the experience memorable was collaborating with such a professional and thoughtful group of contributors, not just learning from their chapters, but from the rich conversations we shared throughout the process.

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3 Sounds like a collaborative dream! Alright, let's jump into Part 1 of our interview: AI in education—new ideas and how we're adapting. We're beyond the basics—everyone knows that AI's here—so what's the next big thing? What's one fresh, boundary-pushing adaptation you're excited about for teaching with AI?

One of the most exciting shifts I'm seeing, and honestly, one that really motivates me in my own teaching, is the idea of using AI as a reasoning partner, not just a shortcut or convenience tool. Xiangen Hu (2025) said it really well in a recent *Times Higher Education* piece: AI isn't just about spitting out answers anymore—it's about helping students think better. That totally reframed things for me.

I think we're at this turning point where AI can actually help students build critical thinking skills, not bypass them. Instead of asking AI to give them the answer, what if students used it to explore how to think through a problem, step by step? That's where the magic happens. AI can model reasoning, offer perspectives, and even challenge students to revise their thinking, and that's way more powerful than just using it to generate a quick summary or draft.

So, for me, the boundary-pushing move isn't about the tech itself, it's about how we teach students to use it reflectively and responsibly. That's what I'm experimenting with right now: getting my students to see AI as a collaborator in their thought process, not just a tool to finish an assignment faster. It's not always easy, but it's absolutely the direction I think we need to be heading in.

That's such a fresh take—AI as a thinking buddy! Maria, what about you? What's an adaptation you're excited about?

What excites me most right now is how AI is shifting the narrative, from remediation to strength-based learning. Instead of focusing on what students lack, AI can help spotlight what they do well and guide them to build their learning and skills from there (which is what we do). We explore this vision in the book's final chapter, written by Rene, where future learners are supported by personal AI assistants that adapt in real time, offering guidance that's not just personalized, but empowering. The kind of future I want to teach in is where AI helps learners recognize their own capabilities, confidence, and creativity, and take off from there.

4 I love that vision of empowerment. Your book offers a framework for integrating AI into education and evaluating its impact. Rene, what are a few key areas schools and teachers should focus on to adapt smoothly?

Great question! One of the big takeaways from our book, and something we really wanted to make practical for educators, is the Nested Framework for Implementing AI in Education, which Leticia De Leon outlines in Chapter 2. It's all about helping schools and educators think across three key levels to bring AI in thoughtfully and sustainably.

At the **macro level,** it's about institutional transformation. That means stepping back and asking: How do we redesign curriculum and competencies to actually integrate AI, not just tack it on? It's also about leadership. Schools need a shared vision that embraces innovation and weaves AI into the culture, not just into a few pilot programs. Plus, if we're serious about equity and scalability, we need adaptive learning systems that work across the whole institution, not just for tech-savvy instructors who've figured out workarounds.

At the **meso level,** it's about ethical practice—departments and faculty teaming up to define what responsible AI use looks like in their fields. Teacher roles are shifting. We've got to protect academic freedom and make sure educators stay in the driver's seat. AI should assist us, not replace the human connection students need.

At the **micro level,** it's all about the classroom. Teachers are already drowning in responsibilities, and AI can be a real ally to help personalize learning, differentiate instruction, and simulate engaging learning experiences like role-play and tutoring. But as De Leon points out, this has to be done within a framework of ethical use, with support and training for both teachers and students.

The key is to phase it in intentionally. It's not a one-and-done rollout. De Leon suggests starting small with pilot projects, learning as you go, and scaling up thoughtfully. It's a call to action: with AI more accessible than ever, now's the time to explore it thoughtfully, ethically, and with purpose.

That framework sounds like a solid roadmap. Maria, you've seen how AI can shake up teaching itself. Can you share a real example—from your research or experience—of AI changing a specific teaching approach, and what new skills do teachers need to roll with it?

5

Absolutely! One shift I've experienced is how I design learning activities in my fully online courses. With generative AI, I can quickly prototype multiple versions of prompts, case scenarios, or discussion questions that are tailored to different learning objectives or student needs. This has opened up more space for creativity and alignment, especially when teaching graduate students who bring diverse professional backgrounds and vast experience. The key skill teachers need now is what we call AI literacy, not just how to use the tools, but when to trust, revise, or reject their output. It's about using AI with intention, enhancing our teaching while staying grounded in our experience and expertise.

6

That's a great point about balancing tech and instinct. Rene, as AI tools like chatbots evolve, how can they push students toward deeper critical thinking and problem-solving without becoming a shortcut?

This is such a great question because it touches on something I think a lot of us are trying to figure out right now; how do we use AI tools like chatbots *without* turning them into academic shortcuts? I think that starts with rethinking what chatbots are actually for.

Jason Gulya makes this point really well in his chapter on the rise of the no-code chatbots. He doesn't see chatbots as all-knowing answer machines. Instead, he sees them as tools that can inspire skepticism and critical thinking. One idea he shares in his chapter is having students build their own chatbots, what he calls *metabots*. That whole process, from design to debugging, forces students to really think about how language works, how information is structured, and how meaning is created. It's not about feeding students answers, it's about putting them in the driver's seat. You build the bot, you test it, it fails, you tweak it. It's a hands-on crash course in lifelong learning.

Le Dinh Bao Quoc offers a different but complementary perspective in his chapter on promoting critical thinking and problem-solving through AI. He discusses how AI can enhance problem-solving and critical thinking through immersive, interactive learning environments. We're talking AI-infused simulations, collaborative projects, and data-driven activities that make students question, analyze, and reflect. These tools don't just hand over the answer, they set the stage for deeper inquiry. Students learn to identify logical fallacies, collaborate effectively, and evaluate ideas from multiple angles.

I think both perspectives align around one big idea, that AI is no longer just an information source; it can be a partner in exploration. Implemented strategically, our students can learn to co-create with them to make sense of complex ideas and the world around us.

As Rene shared above, chatbots can be much more than help desks. From my perspective as an online instructor, I see their greatest potential in how we *design* them to prompt deeper thinking. Instead of just answering questions, chatbots can be structured to ask the right ones, encouraging students to reflect, analyze, and even challenge their own assumptions. Structured chatbot prompts can help guide students through peer review scenarios or ethical dilemmas, helping them engage more critically with course content. It's not automatic, intentional design is everything. When used this way, chatbots don't just support learning; they help *shape* it.

Part 2

THE HARMONY
BETWEEN AI AND US ✨

Let's talk harmony—AI and humans working together in education. What unique roles should AI and teachers take to ensure tech lifts up human creativity rather than stealing the spotlight?

7 ✨

Over the years, I've seen many waves of educational technology. AI stands apart because of its potential to collaborate with educators. The key is letting AI do what it does best, things like analyzing data, streamlining repetitive tasks, and personalizing content, so educators can focus on what only humans can do like build relationships, exercise professional judgment, and create spaces for deeper learning.

Maria Elena opens Chapter 1 by emphasizing the importance of foundational AI literacy. When we understand how these tools function, we can move beyond superficial use and begin applying AI intentionally to expand opportunities for student learning. In Chapter 3, Karl Kapp and Jessica Briskin build on this by showing how AI-enhanced multimedia, such as adaptive reading guides, audio tools, and interactive video, can be integrated with established pedagogy to meet diverse learner needs and elevate engagement.

To me, this is where the real power of AI lies, not in replacing teachers, but in **creating a behind-the-scenes partnership that amplifies what educators do best, respond to students, build community, and inspire learning.**

Exactly! I'd add that harmony also means **recognizing the *limits* of AI, especially when it comes to the nuanced, often complex realities of teaching and learning.** In the Foreword, Badrul H. Khan points out that while AI excels at handling clearly defined tasks, it struggles when things get more complex, for example, when teaching calls for human intuition, emotional awareness, and the ability to navigate ambiguity. That's where educators come in. It is in the human moments where teachers make the biggest impact. AI can support the structure, but only humans can respond to the heart and mind of learning.

That balance is so key. Rene, how can teachers and AI team up to create learning experiences that still feel deeply human?

8

That's a really important question, because as AI tools become more advanced, the challenge isn't just how we use them, but *how we preserve the human essence* of teaching and learning in the process. One of the most effective approaches I've come across is the *Human-AI-Human (H-AI-H) framework* developed by the Washington Office of Superintendent of Public Instruction. Though it was initially designed for K–12, its core principles, ethical use, human oversight, and critical engagement, are incredibly relevant across all levels of education.

The H-AI-H model emphasizes three key phases: *human inquiry, AI augmentation,* and *human reflection*. In other words, students begin with a question or problem rooted in their own curiosity or goals. They then use AI to help explore possibilities, generate ideas, or break down complex tasks. But critically, the final stage brings the student back into the driver's seat, encouraging them to reflect on, refine, and ultimately take ownership of the work. It's a powerful way to ensure that AI supports learning without replacing the human thinking and decision-making that are so essential to education.

This approach also resonates with what Jason Gulya shares in his chapter on the rise of the no-code chatbots, especially around students creating their own chatbots. He draws on Ethan Mollick's idea of engaging with "alien minds," recognizing that while these tools are built on collective human knowledge, they operate in unexpected, often surprising ways. When students interact with AI in this way, they're not just passively consuming information, they're interrogating it, reshaping it, and learning more about their own assumptions and communication patterns in the process.

So, to answer your question, teachers and AI can absolutely team up to create deeply human learning experiences, but it requires intentional design. When we position AI as a co-creator rather than an answer machine, and keep human inquiry and reflection at the core, we not only maintain the integrity of learning, we actually expand its possibilities. The H-AI-H framework offers a clear, ethical path to do just that.

> *Empathy is the heartbeat of learning.*
> *Empathy is at the heart of how students learn, grow, and feel seen.*
>
> *Maria Elena Corbeil*

9 It's really a game-changer framework. Still about human elements, Maria, as AI handles more routine tasks, how do we keep empathy alive and ensure teachers remain mentors and guides?

Empathy is the heartbeat of learning. As AI takes on more routine tasks, the challenge, and opportunity, is making sure we protect what makes teaching deeply human. Empathy is at the heart of how students learn, grow, and feel seen. Chapter 14 by Rottner, Porter, Bock, Jannone, Senerchia, Ward, and Whittinghill, underscores this by showing how AI can either promote equity or deepen divides, depending on how it's implemented and by whom. That's where educators come in. We're not just facilitators. We're connectors, mentors, and advocates. AI can support us behind the scenes, but it's our empathy, creativity, and ability to respond to the gray areas of learning that keep the learning experience human.

10 Absolutely, that human touch is irreplaceable. Rene, the book tackles big ethical questions, like rethinking cheating or avoiding biases. How can educators, and schools, balance AI's benefits with ethical standards?

As Clive Forrester discusses in his chapter on rethinking cheating in the age of AI, traditional assessments, especially essays, are increasingly vulnerable to AI-generated content that can pass undetected. Forrester encourages a shift toward more diverse and dynamic assessment methods, such as portfolios, presentations, and simulations ones – ones AI can't easily game and that foster deeper learning. Yet, as Krzysztof Walczak and Wojciech Cellary lay out in their chapter on navigating risks, we can't ignore the ethical challenges associated with AI, including inaccuracies, bias, disinformation, and privacy risks that must be addressed through stronger digital literacy and ethical awareness.

My personal view? We're in an experimental phase. Faculty and students are both learning what AI can do. And yes, there will be mistakes. But instead of punishing those missteps right away, I think we should use them as teachable moments, because that's how we learn. We should be open with students, talk about what ethical use of AI looks like, and give them space to try, fail, and try again. Second chances matter.

So how do we strike the balance? I think it begins with dialog, talking with students, not just at them. Making sure our integrity policies are flexible enough to adapt to this new world, but clear enough that students know what's expected. And as educators, we need to use these tools ourselves, experiment, explore, make our own mistakes. That's the only way we're going to truly understand how to guide our students through this.

If we approach AI in education with curiosity instead of fear, with ethics instead of panic, and with compassion instead of punishment, I think we'll come out stronger, not just as educators, but as a community of learners.

I agree – dialog is everything. Part of this dialogue involves modeling ethical AI use in everyday practice by openly discussing AI-generated content, checking for bias, and helping students learn to ask critical questions like, "Who created this?" or "What data was it trained on?" As you noted in this question, the topic of ethics runs throughout the book.Chapter 9 by Francisco Garcia and Harriet Watkins explores the evolving complexity of fair use in the age of generative AI, especially as colleges and universities begin crafting policies to address copyright concerns. They trace the roots of the fair use doctrine and show how applying it to AI, which draws on massive datasets, challenges traditional definitions of what's considered "fair." What stood out to me is their call for informed, balanced policies that acknowledge both the legal ambiguity and the potential social utility of AI. It's a reminder that ethical AI use in education isn't just about compliance, it's about thoughtful leadership.

> *If we approach AI in education with curiosity instead of fear, with ethics instead of panic, and with compassion instead of punishment, I think we'll come out stronger, not just as educators, but as a community of learners.*
>
> *Joseph Rene Corbeil*

Your work digs into getting students ready for an AI-powered world and boosting self-directed learning. How can AI spark a lifelong learning vibe in students while keeping the human magic of creativity and connection alive?

As educators, I think we have a responsibility to prepare students for an AI-powered world, not just by teaching them how to use AI tools, but by helping them understand their broader implications. This view aligns with Jaspreet Bindra's call to integrate AI literacy into higher education in a recent India Today article, to close the gap between academic preparation and workforce demands.

Laura Dumin's chapter emphasizes that preparing students for an AI world means ongoing conversations about ethical use, evolving assessment strategies, and flexible teaching approaches. Her application of Leon Furze's (2023) AI Assessment Scale (AIAS), along with her proposed "situational AI use" category, reflects how we can thoughtfully guide students through the complexities of AI integration, while preparing them to become more independent learners.
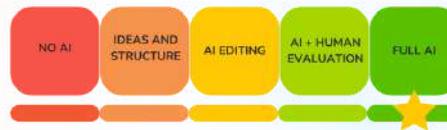
THE AI ASSESSMENT SCALE
A TOOL FOR GENAI ASSESSMENT

Didem Tufan and Elif Öztürk take it further in their chapter, showing how AI can personalize learning beyond the classroom. Tools that adapt to learners' needs, offering real-time feedback, curating content, and suggesting next steps, help develop the skills and habits needed for continuous, self-motivated growth. They contend that the bridge between classroom learning, and lifelong learning, is strengthened when students are taught not only how to interact with AI, but how to think critically about the information it provides, set their own learning goals, and reflect on their progress. In this way, formal education becomes a launchpad for a lifelong learning mindset, where AI serves not as a shortcut, but as a partner in personal and professional development.

I completely agree with Tufan and Öztürk, especially the idea that formal education is the launchpad. For me, the key is helping students see AI not just as a tool, but as a thinking partner. When we model curiosity, reflection, and ethical questioning in our own teaching, students carry those habits with them. That's how we keep the human spark alive while building lifelong learners.

✦ **That's such an inspiring vision. As we wrap up, let's look decades ahead. What's your dream for how AI and human educators will harmonize in the long run, and how does your book help us get there?**

The final chapter of the book envisions the transformation of education by 2040, driven by advanced AI and emerging technologies. Through design fiction, it presents a future where education is dynamic, personalized, and accessible, seamlessly integrating AI into every aspect of the learning experience.

While Bill Gates has suggested on multiple occasions that AI may replace teachers within the next 10 years, I envision a brighter future where AI enhances, not replaces, the human side of education. I imagine a learning environment where AI takes on the heavy lifting of personalization, real-time feedback, and adaptive support, freeing up educators to focus on the irreplaceable elements they bring to the table: empathy, mentorship, and connection.

Our book is a roadmap to get there, with practical frameworks, ethical insights, and evidence-based strategies. Every contributor, like Jason Gulya with his "evergreen" chapter, aimed for lasting relevance. Through this commitment

Our dream is a future where AI quietly supports learning in the background, while, as Rene noted, educators lead with empathy, mentorship, and connection. We hope the book can serve as a guide, shaped by the insights of contributors across fields, for building that future thoughtfully, ethically, and in partnership with one another.

✦ **Rene, for teachers or readers eager to jump into your book, what's the best way to dig in—whether they're AI newbies or already playing around with it in class?**
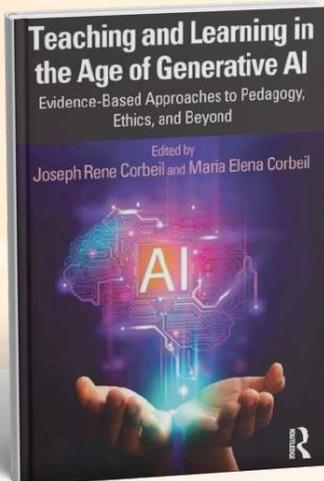
Great question! *Teaching and Learning in the Age of Generative AI* was designed to meet educators wherever they are in their AI journey, whether they're just starting to explore these tools or already experimenting with them in the classroom. For AI newcomers, I'd recommend starting with the early chapters that provide foundational context, helping them demystify the technology and give readers a solid footing.

For those who are more experienced and already using AI in their teaching, there are chapters that dive into advanced applications, like rethinking assessment design, navigating academic integrity, and creating inclusive, adaptive learning environments.

Readers can also explore chapters aligned with their specific interests. The beauty of the book is its flexibility, you don't have to read it cover to cover.

And Maria, what's the one big takeaway you hope readers—especially educators—walk away with from your book?

Just try it! We're all learning this together. You don't have to be an expert to begin experimenting with AI in your teaching. Start small, stay curious, and lean on your community for support and ideas. AI in education isn't about having all the answers, it's about exploring the questions together, through collaboration, curiosity, and human connection.

Teaching and Learning in the Age of Generative AI
Evidence-Based Approaches to Pedagogy, Ethics, and Beyond
Edited by
Joseph Rene Corbeil and Maria Elena Corbeil

KEY TAKEAWAYS

✦ **AI supports teachers:** AI handles tasks, letting teachers focus on empathy and mentorship. AI should enhance, not replace, the human side of teaching.

✦ **AI as reasoning partner:** AI and chatbots can promote critical thinking by guiding students through problem-solving, not just giving answers.

✦ **Strength-based learning:** AI empowers students by focusing on their strengths, boosting confidence and creativity.

✦ **Intentional AI integration:** Thoughtful design, like De Leon's Nested Framework, ensures AI aligns with curricula and ethics, starting small and scaling purposefully.

✦ **Curiosity over expertise:** Teachers can start with small AI experiments, learning through trial and error with a curious mindset.

✦ **Ethical dialogue:** Open talks with students and flexible policies address AI's ethical challenges.

✦ **Lifelong learning:** AI personalizes education, fostering self-directed learning beyond the classroom.
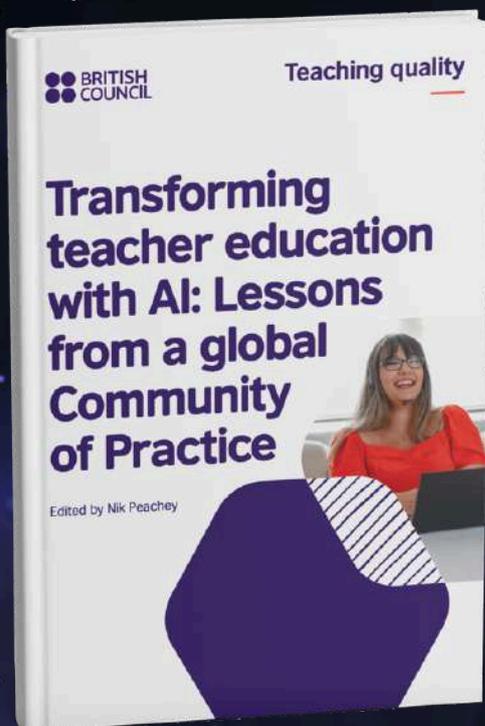
Edited by **Nik Peachey, Transforming Teacher Education with AI: Lessons from a Global Community of Practice** offers a compelling look at how artificial intelligence can be integrated into teacher training through the lived experiences of a global Community of Practice. Supported by the British Council since 2019, and further developed through the 2023 AI Roundtable for Teacher Educators led by Şirin Soyöz Yılmaz, this initiative brought together educators from 18 countries to explore AI's role in shaping the future of professional development.

The book captures the process, outcomes, and key resources generated by this international collaboration. Topics include AI-assisted lesson planning, feedback, safety, and ethical considerations—each explored through practical strategies and real-world examples. With an emphasis on ethical AI use and maintaining human connection in education, this collection serves as both a guide and a source of inspiration for teacher educators.

Whether you're new to AI or looking to deepen your understanding, this book is a valuable resource for using AI thoughtfully to enhance training, mentoring, and teaching practices in a collaborative, forward-thinking way.

TRANSFORMING TEACHER EDUCATION WITH AI
Lessons from a global Community of Practice

Edited by Nik Peachey

BUILIDNG A
HUMAN-CENTERED
HARMONY
FOR THE FUTURE

Esma Sıla Tekinsoy

AI is no longer a futuristic concept in education—it is a present reality reshaping how we teach, learn, assess, and interact. From personalized learning platforms to AI-generated content and predictive analytics, AI is becoming an embedded part of educational systems worldwide. Yet, this integration raises a crucial question:

How can we ensure that AI supports rather than supplants the deeply human aspects of learning such as empathy, creativity, and ethical reasoning?

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As educators, researchers, and policymakers, we are not merely adopting technology—we are co-architects of a new educational paradigm. The harmony we seek lies not in replacing human intelligence, but in enhancing it with tools that are inclusive, equitable, and deeply connected to the needs of teachers and learners.

At its best, AI offers a unique opportunity to humanize learning. It can amplify curiosity, personalize experiences, and free up time for deeper engagement. But to achieve this, we must ensure that design, implementation, and policy reflect not only technological capabilities, but also human values.

1 REFRAMING THE ROLE OF AI: FROM TOOLS TO TRUSTED PARTNERS

Initially perceived as new tools, AI technologies in education are maturing into trusted collaborators. Adaptive platforms help tailor content to student needs in real time. AI-driven assistants support students with disabilities, offering speech-to-text, translation, and predictive typing services. Importantly, these tools are not replacing educators but enhancing their reach and responsiveness.

According to Holmes, Bialik, and Fadel (2019), AI has the potential to free teachers from repetitive tasks and allow greater focus on creativity and critical thinking. Rather than asking whether AI can replace teachers, the more powerful question is: *How can AI empower teachers to do what they do best?*

Field reflections: In my own practice, I've used AI to generate tailored reading texts for students with different proficiency levels. What would take an hour now takes minutes—and the real value comes from the extra time I spend in meaningful discussion with my students.

2 DESIGNING FOR EMPATHY: THE IMPERATIVE OF HUMAN-CENTERED AI

Designing AI that supports emotional and social learning is essential. Students thrive in environments where they feel seen, heard, and supported. AI applications, when built with input from educators and learners, can enhance this by providing real-time feedback, emotional sentiment analysis, and mental health alerts.

Luckin (2018) emphasizes aligning AI with human values and social contexts, arguing that any meaningful AI design in education must prioritize relationships over efficiency. In practical terms, this could mean designing dashboards that highlight student wellbeing alongside academic performance, or integrating AI chatbots that guide students through mindfulness exercises.

Field reflections: We explored this by building an AI chatbot named Ollie in my classroom—students talked to him about ocean sustainability and he guided them with kindness and facts. The empathy they projected onto a machine surprised me—and reminded me that even digital tools reflect our intentions.

3 ETHICS AND EQUITY IN THE AGE OF AI

AI is only as ethical as the data and intentions behind it. In education, this means actively addressing issues of data privacy, algorithmic bias, and transparency. Schools must establish clear frameworks on what data is collected, how it is used, and who has access to it.

Selwyn (2019) warns that without ethical scrutiny, AI could perpetuate existing inequalities. For example, if an algorithm is trained on a narrow dataset, it may misinterpret the behaviors or needs of students from marginalized communities. To counter this, inclusive data sets and diverse development teams are essential.

Field reflections: During a discussion with my students, one of them asked, "Why does the app always suggest I review words I already know?" That single question made me realize how easily AI can create echo chambers if we're not alert.

4 THE EVOLVING ROLE OF EDUCATORS IN AI-ENHANCED CLASSROOMS

As AI reshapes educational practices, it also redefines the educator's role. Teachers become designers of learning environments, facilitators of inquiry, and critical interpreters of AI-generated insights. This shift requires new competencies—technical literacy, data interpretation, and ethical decision-making.

UNESCO (2023) notes that fewer than 20% of teacher training programs currently include AI-related modules. Closing this gap is imperative. Ongoing professional development must evolve to help teachers integrate AI meaningfully, not mechanically.

Field reflections: In the seminars I led for teachers, we didn't just learn how to use AI tools. We discussed how AI challenges our own assumptions as educators—what we assess, how we differentiate, and when to step back.

5 STUDENTS AS CO-CREATORS: AI LITERACY AND EMPOWERMENT

To prepare students for an AI-infused future, education must go beyond user proficiency. Learners should understand how AI works, its limitations, and its social impact. Involving students in AI co-creation—such as designing chatbots, analyzing algorithmic bias, or exploring generative art—builds digital agency and critical thinking.

OECD (2021) highlights that future-ready students must be not only digitally fluent but ethically grounded. AI literacy should therefore include ethical reflection, interdisciplinary projects, and collaboration across diverse perspectives.

Field reflections: My students used AI to visualize their own fairy tales. Beyond the images, the discussion that followed—"Why is the girl always blonde?"—sparked powerful insights into representation and bias.

6 TRANSFORMING ASSESSMENT AND FEEDBACK WITH AI

AI offers opportunities to revolutionize assessment. Instead of relying solely on summative tests, educators can employ AI tools for formative assessment, real-time feedback, and portfolio analysis. These tools can highlight trends in learning behavior and provide insights into both strengths and areas for growth.

However, caution is warranted. AI should inform, not dictate, educational decisions. Educators must remain central in interpreting data within the context of each student's story.

Field reflections: I often use AI to generate custom feedback based on students' writing. But I always reframe it in my own words—feedback should feel like a teacher speaking, not a tool summarizing.

7 GLOBAL PRACTICES AND POLICY PERSPECTIVES

AI in education is unfolding differently across countries. In Finland, ethical AI frameworks are being co-developed with students. In Kenya, mobile-based AI tools are bridging rural education gaps. In Uruguay, students are using AI to co-create digital campaigns on sustainability.

These examples underscore the need for localized, culturally responsive AI policies. They also point to a shared truth: equity and innovation are not mutually exclusive.

Field reflections: *Collaborating with international teachers, I saw how context shapes AI use. One educator used WhatsApp and AI to teach phonics in a power-cut-prone region. Ingenuity often comes from necessity.*

8 FUTURE-READY SKILLS AND CROSS-DISCIPLINARY INTEGRATION

AI is catalyzing a shift from siloed subjects to integrated learning experiences. Students use AI to simulate ecosystems in science, write poetry with language models, and visualize historical events through generative images. Such cross-pollination not only boosts engagement but also mirrors real-world complexity.

Holistic skills—creativity, collaboration, problem-solving, and ethical reasoning—are more relevant than ever. Educational systems must adapt curricula to nurture these competencies in tandem with technical skills.

Field Reflections: *In one interdisciplinary project, we used AI to generate images of ancient civilizations for a social studies unit, then wrote descriptive texts in English. The students began to ask: "What if history was told by a machine?"*

9 AI IN THE HANDS OF FAMILIES AND COMMUNITIES

The integration of AI into education extends beyond the classroom walls. Families and caregivers play a crucial role in shaping children's understanding and use of technology. Schools that offer family-focused AI workshops or create community-based learning hubs build bridges between formal and informal learning spaces.

By involving parents in conversations about AI—its benefits, limits, and ethical concerns—educators foster a shared understanding and promote responsible use at home. This inclusive approach also strengthens community trust and reinforces student wellbeing.

Field reflections: *As a mother, I once introduced my own daughter to an AI story generator we used in class. Watching her excitement as she created a bedtime story about space travel, I realized how powerful these tools can be beyond the classroom. Since then, I've supported families in exploring AI together at home as a way to bond and learn.*

10 A CALL TO POLICYMAKERS: ETHICAL LEADERSHIP FOR A SHARED FUTURE

Global policy efforts must ensure AI contributes to just and democratic education systems. Transparent funding, fair procurement of Ed-tech tools, and mandatory ethical impact assessments should be standard in national strategies. Policymakers must prioritize digital equity alongside innovation.

Cross-sector collaborations—among educators, developers, ethicists, and students—can guide the design and implementation of policies that are sustainable, inclusive, and adaptable. Only with a long-term vision can we ensure AI serves education's core mission: to cultivate human potential.

Field reflections: Through my involvement with international networks and conferences, I've learned how critical it is that teachers help shape—not just follow—AI education policy. We're not just end users. We're ethical architects.

11 RETHINKING TEACHER TRAINING FOR AN AI-INFUSED FUTURE

As AI becomes increasingly integrated into the classroom, teacher education must evolve beyond tool-based training. Effective preparation requires educators to explore AI's philosophical, ethical, and pedagogical dimensions.

Universities and training programs should include dedicated modules on AI ethics, interdisciplinary problem-solving, and adaptive learning design. More importantly, teachers should be encouraged to reflect critically on how AI intersects with their values, identities, and classroom cultures.

When teachers are empowered to co-shape AI integration with confidence and care, they become not only users—but ethical leaders in a digitally complex world.

Field Reflections: *In my AI workshops with new teachers, I've seen the importance of demystifying technology. It's not about mastering every tool—it's about knowing when, why, and how to use it responsibly.*

TOWARD AN INCLUSIVE AND ETHICAL AI-EDUCATION ECOSYSTEM

AI in education is not a matter of if—but how. As its presence grows, so does our responsibility to shape it wisely. A human-centered approach demands more than just innovation; it calls for intention, collaboration, and ethical stewardship.

The future of education lies not in choosing between humans and machines, but in fostering a synergy where both contribute to learning that is equitable, empowering, and enduring.

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Esma Sıla Tekinsoy is an innovative English teacher and AI expert based in Turkey. With over a decade of experience in the classroom, she integrates artificial intelligence into her lessons to foster creativity, inclusion, and critical thinking. Beyond teaching, she regularly shares her reflections on education and AI through blog articles and a personal podcast series. She also facilitates teacher workshops and speaks at national and international events focused on digital learning and innovation. Passionate about the intersection of storytelling, art, and technology, she is dedicated to building a future where AI enhances both the joy and equity of learning.

DISCOVER THE JOY OF LEARNING TOGETHER

AI FAMILY ADVENTURES

Written by Ioannis Anapliotis

Tired of too much screen time pulling your family apart instead of bringing you closer? Say hello to **Family Adventures in the AI Era: Hands-On Projects for Kids and Parents**—the ultimate guide to turning curiosity into connection and creativity into cherished memories.

This is not just a book—it's a joyful invitation to rediscover family connection through the lens of curiosity, creativity, and cutting-edge innovation.

In a world where screens often divide more than unite, this one-of-a-kind guide by educator and technologist **Ioannis Anapliotis** flips the script. It transforms technology into a shared playground, where parents and children become co-creators of stories, experiments, art, games—and memories. From coding without computers to AI-inspired scavenger hunts and recipe inventions, each chapter is a doorway into playful learning and purposeful time together.

Family Adventures
in the AI Era

Hands On Projects for Kids and Parents

Order it from
Gumroad

📘 **Discover inside:**
- 12 themed chapters of imagination-driven adventures
- 60+ SMART prompts (Specific, Meaningful, Audience-focused, Response-oriented, Tailored)
- Projects in storytelling, coding, art, science, cooking, and more
- Designed for families with kids ages 6–12
- Zero experience needed—just love, curiosity, and a bit of wonder

The EduVerse Newsletter is excited to feature a brief interview with Ioannis Anapliotis, the author of this inspiring and unique book. Let's explore his inspiration behind the book, gain valuable insights, and discover how AI can bring families even closer.

EduVerse: *Welcome, Mr. Anapliotis! We're excited to have you discuss your book in the context of our special edition on AI and Us. Your book Family Adventures in the AI Era feels like a breath of fresh air. What inspired you to combine family bonding with hands-on AI learning?*

Ioannis Anapliotis: The true inspiration for AI Family Adventures is my 6-year-old daughter, *Fotini*. Watching her explore the world with endless curiosity, imagination, and joy made me ask: *How can we bring that spirit into the world of AI?* I wanted to create something that would allow families like ours to not just use technology—but to create with it, to laugh with it, and to connect through it.

As an educator, I've seen the power of AI in the classroom. But as a parent, I saw an even greater opportunity—*to turn AI into a bonding experience between generations.* Every chapter, every prompt in the book, is something I imagined doing with Fotini. And to make it even easier for families, I also created an *interactive chatbot* that accompanies the book, guiding them through activities, answering questions, and making learning feel playful and personalized. It's like having a friendly co-pilot on your AI adventure.

That's so inspiring, when doing with our children! But many families worry about screen time and digital overload. How does your book turn technology into a tool for connection rather than distraction?

That's a concern I deeply share as a parent. AI Family Adventures flips the script: instead of isolating family members behind screens, it encourages them to *sit together, talk, build, and create*—with AI as their assistant, not their replacement.

For example, instead of watching a video alone, you might generate a story as a family, act it out together, or even cook a recipe invented by AI based on your child's favorite fairy tale. The screen becomes a starting point for shared experiences—not the destination.

🎨 Build mini machines with recycled materials

🧪 Dive into science experiments that fizz, pop, and wow

💡 Learn the basics of coding and prompt engineering—no tech experience needed

🌳 Go on nature scavenger hunts and. create art from twigs and leaves

🍲 Host a themed cooking night or invent your own family recipe

🎲 Design board games, write wild stories, and create your own trivia nights

Each chapter is a new opportunity to explore, collaborate, and grow—together.

🌟 But that's not all! Every copy of AI Family Adventures comes with access to the **Family Adventure Companion**—a dynamic, interactive guide that brings the book to life with step-by-step support, creative prompt ideas, troubleshooting tips, and bonus activities tailored for families. It's like having a friendly digital guide right at your side, ready to help make every adventure fun and meaningful!

✅ Perfect for families with kids aged 6–14

✅ No coding or AI experience required

✅ Full of tips, prompts, and step-by-step guides

✅ Encourages critical thinking, teamwork, and imagination

✅ BONUS: Includes the Family Adventure Companion for extended play and support

Very creative. I see the activities in the book go way beyond screens—like scavenger hunts and cooking nights. How do these connect to AI? Why was it important for you to keep that balance between tech and nature or creativity?

I believe AI is most powerful when it helps us *connect more deeply with the real world.* That's why I made sure the book includes outdoor adventures, art projects, and cooking games—all infused with light touches of AI.

Take our "Outdoor Prompt Hunt" as an example. AI generates silly or surprising challenges like: "Find something a robot would never understand." Suddenly, a walk in the park becomes a tech-enhanced adventure. That blend—between physical experience and digital creativity—is where the magic happens. And for Fotini, those are the moments she talks about for days!

I can imagine the fun it brings! Besides that, what is one activity from the book is your personal favorite, and why?

It has to be "Build a Family Gadget"—an activity that invites families to invent something totally new. One weekend, Fotini and I designed a "Giggle-o-Meter," a cardboard invention that lights up every time someone laughs. We didn't just make something fun—we p*roblem-solved, designed, and shared ideas* like a team.

Seeing her face light up as our silly invention came to life reminded me why I wrote this book. It's not about mastering AI—it's about mastering joy and creativity together.

Your book clearly supports family bonding through learning. What role do you think families play in shaping a child's digital literacy and mindset toward AI?

Families are where a child's relationship with technology begins. If we introduce AI as something collaborative, ethical, and imaginative, children will carry that mindset into the future.

When parents say "Let's try this together" instead of "Go do this on your tablet," it teaches children that *technology is something to explore—not something to consume.* We don't need to be tech experts. We just need to be *present and playful.*

Absolutely. If there's one thing you hope families take away from the book, what would it be?

That *curiosity is contagious—and connection is the real goal.* I hope families walk away realizing that exploring AI together isn't just educational—it's magical. The laughs, the experiments, the unexpected discoveries... those are the things kids remember.

If a parent and a child sit down and say, "Let's build something wild today," and they end up creating a memory—that's the future I want to be part of.

Thank you, Mr. Anapliotis. Your insights are incredibly inspiring. We hope your book will also serve as a source of inspiration for teachers and families worldwide to enrich the learning experiences together in the AI era.

> If a parent and a child sit down and say, "Let's build something wild today," and they end up creating a memory—that's the future I want to be part of.
>
> Ioannis Anapliotis

Ioannis Anapliotis is a seasoned computer science educator and AI specialist with over 20 years of teaching experience. He holds a MSc in Computer Science in Education and a Bachelor's in Physics. As a leader in AI and virtual reality in education, he collaborates internationally to drive innovative learning solutions.

EduVerse is pleased to present an excerpt from Chapter 8 with permission from the author, Ioannis Anapliotis. Please turn the page to begin your next family adventure.

CHAPTER 8

COOKING AND BAKING TOGETHER
FAMILY RECIPE CREATION

Ioannis Anapliotis

This excerpt is from Chapter 8, Cooking and Baking Together, of the book **Family Adventures in the AI Era: Hands-On Projects for Kids and Parents** *by Ioannis Anapliotis. We express our gratitude to Ioannis for granting us the special privilege to republish this section in EduVerse Newsletter 21, the special edition focused on AI and Us - The New Harmony in Education.*

Family Recipe Creation is an exciting adventure that combines culinary creativity with the joy of family bonding. This subchapter invites families to dive into the kitchen and craft unique recipes together, blending flavors and techniques to create dishes that reflect each family member's personality. The process of creating a family recipe not only fosters teamwork but also generates lasting memories that can be cherished for generations. Imagine gathering around the kitchen, laughter echoing as everyone contributes their ideas and tastes, leading to a dish that is distinctly yours!

Start the journey by brainstorming as a family. Gather around the table and discuss your favorite ingredients, dishes, and cultural flavors. Encourage each member to share their culinary preferences, whether it's a love for spicy foods, a preference for sweet treats, or a passion for international cuisine. This brainstorming session is crucial as it sets the foundation for your family recipe. Use prompts like "What dish reminds you of our family gatherings?" or "If you could create a dish that represents our family, what would it be?" This dialogue will spark creativity and ensure everyone feels included in the process.

Once you have a list of ideas, it's time to get experimental! Choose a base recipe that you all enjoy, such as a pasta dish, a smoothie, or a dessert. Then, take turns suggesting add-ins or substitutions that reflect your individual tastes. Maybe someone wants to add a dash of cinnamon to the smoothie, while another family member suggests a handful of spinach for a nutritional boost. This collaborative approach encourages kids to think critically about flavor combinations and explore their culinary skills. Remember, it's all about trial and error, so don't be afraid to get a little messy!

As you work on perfecting your family recipe, document the process. Create a family recipe book by writing down each step, including unconventional choices and the reasoning behind them. You can even add photos of each cooking session, capturing the fun and chaos of your culinary adventures. This recipe book will not only serve as a guide for future cooking sessions but also become a treasured keepsake that chronicles your family's evolution in the kitchen. Encourage kids to express their creativity through illustrations or handwritten notes, making it a true family heirloom.

Finally, it's time to share your creation with the world! Organize a family dinner or a potluck with friends to showcase your new dish. This event can be a celebration of all the hard work and creativity that went into crafting your family recipe. Encourage everyone to talk about their contributions and the fun moments you shared along the way. Sharing your creation not only boosts confidence but also strengthens family ties as you reflect on the joy of creating something together. So roll up your sleeves, gather your loved ones, and embark on this delicious journey of family recipe creation!

THEMED COOKING NIGHTS

Themed cooking nights are a delightful way to blend creativity, learning, and fun right in your own kitchen. Imagine transforming an ordinary evening into an extraordinary adventure where each family member plays a role in a culinary journey. With a little planning and a sprinkle of imagination, themed cooking nights can become a cherished tradition that strengthens family bonds while introducing kids to the joy of cooking and the magic of prompt engineering.

Start by selecting a theme that excites everyone. Whether it's Italian night with homemade pizzas, a taco fiesta celebrating Mexican cuisine, or a cozy evening of comfort food from around the world, the possibilities are endless. Involve your children in the brainstorming process, allowing them to contribute their ideas. This not only makes them feel included but also ignites their creativity as they think of fun prompts related to the theme, such as "What would a pizza look like if it were designed by a robot?" or "Create a new taco filling inspired by your favorite cartoon character."

Once the theme is set, dive into the planning phase. This is where the magic of prompt engineering shines. Assign each family member a specific role based on their interests and skills. For example, one child can be the 'head chef' responsible for the main dish, while another can take on the role of 'sous-chef' to chop vegetables or prepare ingredients. Parents can guide the process, ensuring safety while encouraging independence. Incorporate prompts that challenge your kids to think outside the box, such as "What ingredients can we use to create a dish that represents our family?

As you cook, encourage conversations about the cultural significance of the chosen cuisine. This is an excellent opportunity for kids to learn about different traditions and practices while developing their culinary skills. You can even throw in fun facts or historical tidbits related to the theme. Prompt them with questions like "What is your favorite memory connected to this food?" or "If you could invite anyone from history to our themed dinner, who would it be and why?" These discussions not only deepen the experience but also encourage critical thinking and storytelling.

Finally, set the table and immerse yourselves in the theme. Use decorations, music, or even costumes that complement your culinary creation. As you sit down to enjoy the fruits of your labor, take a moment to appreciate the effort everyone put in and the memories created. Themed cooking nights not only produce delicious meals but also foster collaboration, creativity, and a sense of accomplishment. They are a fantastic way to teach kids the importance of teamwork and the joy of sharing experiences, making every cooking night a new adventure for the whole family.

CULINARY CHALLENGES

Culinary challenges are a fantastic way for families to bond while exploring creativity in the kitchen. Imagine transforming mealtime into an exciting adventure where kids and parents collaborate to conquer delicious tasks. These challenges not only spark imagination but also encourage teamwork and communication. Whether it's creating a meal from a mystery box of ingredients or attempting a themed dinner night, culinary challenges turn cooking into an engaging family project, full of laughter and learning.

One of the most fun aspects of culinary challenges is the element of surprise. Consider setting up a "Mystery Ingredient Challenge," where each family member selects a secret ingredient that must be incorporated into a dish. This adds an exciting twist to the usual cooking process and pushes everyone to think outside the box. Kids can experiment with flavors and textures, while parents can guide them through the culinary techniques needed to bring their ideas to life. The result? A delicious dinner that's as unique as the creative minds behind it!

Another engaging challenge is the "International Cuisine Night." Families can choose a country and prepare a traditional dish from that culture. This not only allows everyone to learn about new ingredients and cooking methods but also opens a dialogue about geography and traditions. Kids can help research the chosen country, discovering interesting facts and customs that can enhance the meal experience. As you savor the flavors from around the world, you'll also be enriching your family's knowledge and appreciation for diverse cultures.

Don't forget about the power of presentation! A "Plating Challenge" encourages creativity in the way food is served. Families can compete to see who can create the most visually stunning dish using the same base ingredients. This challenge allows kids to express themselves artistically while learning about the importance of presentation in cooking. You can even take photos of the final dishes and have a fun family vote on the most creative plate, adding a friendly competitive spirit to the cooking process.

Finally, cooking challenges can be a fantastic way to teach valuable life skills. Through these projects, children learn about planning, measuring, and following directions, all while having a blast with their family. The kitchen becomes a classroom where lessons extend beyond just cooking. As families tackle culinary challenges together, they create lasting memories and instill a love for cooking that can last a lifetime. So roll up your sleeves, grab your aprons, and prepare for some unforgettable family culinary adventures!

PROMPTS TO TRY

Prompt 1

Adopt the role of a family chef mentor. Design a "Create Your Own Recipe" worksheet that guides families through combining their favorite ingredients into one original dish. Use prompts like "What flavors remind you of home?" and "Name your dish like it's on a menu."

Prompt 2

Adopt the role of a themed dinner coordinator. Create a "World Tour Cooking Night" prompt plan where families choose a country, research a dish, and prepare it together. Include discussion prompts like "What do people in this country celebrate with food?" and fun facts to share at the table.

Prompt 3

Adopt the role of a kitchen game show host. Create a Mystery Ingredient Challenge prompt for a family cooking competition. Set rules like "Use at least 3 surprise ingredients," "Explain your dish to the judges," and "Award points for creativity, taste, and teamwork."

AI IN EDUCATION
A SUPPORTIVE ALLY FOR ADVANCING INCLUSIVE AND PERSONALIZED LEARNING

Dr. Meline Grigoryan

As we move through 2025, generative AI is no longer a distant idea but a widespread reality across all sectors, including education. From personalized learning to accessibility and learner support, AI is reshaping how we teach and learn—offering new possibilities for both educators and lifelong learners. Yet, while AI presents numerous opportunities, its integration also brings pressing ethical, practical, and equity challenges.

BEYOND EFFICIENCY: A TOOL FOR EQUITY AND PERSONALIZATION

Much of the current discourse on AI in education has focused on efficiency—how it saves time and streamlines administrative tasks. But its true power lies in its ability to personalize learning, adapting to each student's unique needs and fostering an inclusive educational environment. For students with disabilities, neurodiverse profiles, language barriers, or trauma-affected backgrounds, AI offers pathways that traditional systems often overlook. AI-powered tools, such as speech-to-text systems or real-time translation, are already proving to be game-changers in classrooms worldwide.

A 2023 report from Stanford University's Graduate School of Education highlights how AI-based tutoring systems provide scalable, individualized support, especially for students from under-resourced communities. These systems allow for a depth of personalization that traditional education models struggle to achieve. But technology alone won't create an inclusive classroom. Without thoughtful, equity-driven design, AI has the potential to sustain existing disparities. Algorithms can reflect biases embedded in training data, and unequal access to technology can widen the digital divide.

THE ETHICAL CONSIDERATIONS OF AI IN EDUCATION

It is important to remember that AI tools are not neutral. They carry with them the assumptions, values, and biases embedded in their design. Many AI models rely on datasets that reflect societal inequities, including those based on race, gender, language, and disability. For example, a language tool trained primarily on English may underperform in other languages, while an image recognition system might fail to recognize assistive technologies used by students with disabilities.

These limitations raise vital questions:

Who is the "default" learner AI is designed for?

Often, AI systems are built with an idealized learner in mind—one who speaks a dominant language, has access to reliable technology, and fits within a narrow band of cognitive or physical norms. This can marginalize students who don't fit this profile, such as those in non-English-speaking regions, students with disabilities, or those in low-resource settings.

Whose educational norms are embedded in AI tools?

AI systems often reflect the pedagogical assumptions of their creators, which may align with Western or urban-centric educational models. For example, an AI tutoring system might prioritize standardized test preparation over culturally relevant learning or oral traditions valued in Indigenous communities.

Are diverse experiences considered in the design process?

The design of AI tools often lacks input from the very communities they aim to serve. Students with disabilities, for instance, may rely on assistive technologies that AI systems fail to recognize or support. Similarly, neurodiverse learners may require flexible pacing or sensory-friendly interfaces that are not prioritized in mainstream AI design.

Beyond algorithmic bias, ethical concerns also extend to data privacy and informed consent, particularly for children. The use of AI in education generates vast amounts of sensitive data, including students' academic performance, behavioral patterns, and even biometric information in some cases (e.g., eye-tracking for engagement analysis). This raises critical questions: Who owns the data? How is it used, stored, and monetized? Are families aware of their rights?

To address these challenges, AI in education must be:

- ✦ **Transparent:** Clearly explaining how decisions are made. Families and teachers deserve to know how AI makes choices, like why it suggests certain lessons or flags a student's progress. If an AI tool marks a student as "behind," it should explain its reasoning clearly, so educators can weigh in. Schools also need to be upfront about data practices, building confidence in the system.

- ✦ **Inclusive by design:** Inclusion means working with diverse groups—students with disabilities, non-English speakers, or low-income families—to shape tools that fit their realities. An AI reading app, for instance, could be crafted with bilingual teachers to support kids learning in their home language. This approach makes AI a tool for connection, not exclusion.

- ✦ **Governed responsibly:** Ensuring equitable data practices and usage. Responsible governance involves strict oversight of how student data is handled, with clear policies on consent, retention, and third-party access. For example, schools must ensure that AI providers do not monetize student data without explicit parental consent, particularly for minors. Governance also means enforcing accountability—independent audits of AI systems can help identify and correct biases, while regulatory frameworks can ensure compliance with equity-focused standards.

SUPPORTING EDUCATORS THROUGH AI INTEGRATION

Teachers are more than passive users of AI—they are co-designers and ethical stewards of how technology is integrated into learning environments. But to take on this role effectively, educators need more than theoretical knowledge; they need hands-on, classroom-relevant training and ongoing support. Many educators express both excitement and anxiety about AI, with some fearing the loss of human connection or being replaced by machines, while others feel overwhelmed by the pace of change and lack of clear guidance.

To help educators navigate this transformation, they need:

- ✦ Practical training grounded in real-world classroom challenges. Training programs should focus on applying AI tools to everyday teaching scenarios, such as differentiating instruction for diverse learners or using AI analytics to identify student needs. These training should be hands-on, offering simulations and case studies that mirror real classrooms, and it should be accessible to educators with varying levels of tech proficiency.

- ✦ Peer networks for collaboration and reflection. Sharing ideas with peers helps teachers make sense of AI. Online groups, local meetups, or school-based teams let them swap tips, like how to adapt AI for special needs students, or vent frustrations. These networks also encourage teachers to think critically about AI's role, ensuring it supports their teaching goals.

- ✦ Emotional and psychological support to handle the uncertainties of technological change. The rapid adoption of AI can evoke anxiety, particularly for educators who feel pressured to master new tools without adequate time or resources. Schools must provide emotional support through counseling, mentorship programs, or wellness initiatives tailored to tech-related stress, empowering educators to embrace AI as a partner, not a threat, in the classroom.

> *Supporting educators is key to ensuring AI's potential is fully realized in the classroom. Inclusion isn't just about students—it also requires that teachers feel confident, informed, and empowered.*
>
> Meline Grigoryan

A HUMAN-CENTERED VISION FOR AI IN EDUCATION

To harness AI's full potential, we must move beyond tool adoption and focus on transforming the learning experience into something more equitable and responsive. This transformation requires co-creation with:

Teachers, who bring invaluable relational and pedagogical insight. Teachers are the heart of education, with deep knowledge of their students' needs and classroom dynamics. Their insights are critical for designing AI tools that enhance, rather than disrupt, teaching. Involving teachers in the design process whether through focus groups, pilot testing, or advisory boards will ensure the AI tools align with real-world pedagogical needs.

Students, particularly those with lived experiences of marginalization. They offer unique perspectives on what makes learning accessible and engaging. For instance, a student with a visual impairment might highlight the need for AI tools to integrate seamlessly with braille displays. Inviting students into the design process makes AI tools practical and empowering.

Families and communities, whose cultural knowledge and trust are essential. They bring cultural context that AI tools must respect to be effective. For example, a community with strong oral traditions might advocate for AI tools that prioritize storytelling over text-based learning. Building trust requires transparent communication about how AI is used and how data is protected.

Technologists and policymakers, who must ensure innovation aligns with justice and accessibility. Technologists drive AI development, but their work must be guided by principles of equity and accessibility.

This shift in mindset requires reframing our questions:

From "What can AI do?" to "What do learners truly need—and how can AI help?"

This shift prioritizes human needs over technological capabilities. For example, instead of asking how AI can automate grading, we might ask how it can help a student with dyslexia improve reading fluency. This approach also encourages holistic solutions, such as combining AI with teacher-led interventions to support struggling students.

From passive consumption to active co-design of learning experiences

Education should empower students and teachers as creators, not just users, of technology. Co-design fosters agency, encouraging learners to take ownership of their educational journey.

From efficiency and automation to creativity, empathy, and deep learning.

AI's value lies not in replacing human effort but in amplifying qualities like creativity and empathy. Similarly, AI can foster deep learning by analyzing student misconceptions and offering targeted feedback, enabling teachers to focus on higher-order discussions.

ANCHORING AI IN WHAT'S MOST HUMAN

AI has already entered our classrooms—but its highest purpose is not to replace teachers or automate care. Rather, it is to deepen what makes education profoundly human: our ability to understand, support, and celebrate each learner's individuality.

When thoughtfully designed, AI can support one of education's most urgent goals: truly personalized learning. Personalized learning must be recognized as a right, not a privilege, and embraced as a foundational pillar of inclusive education. This requires building systems that empower all learners and educators to thrive—especially those who have been historically marginalized or underserved.

If we want AI to live up to its full potential in education, we must integrate it with empathy, ethics, and evidence—placing people, not just performance metrics, at the heart of every design and policy decision. No matter the country, region, or education model, the core need remains the same: to create learning environments that are equitable, adaptable, and responsive to human diversity, for every learner, everywhere.

> Let's remember: AI is not the driver of change, but a helping tool—one that reflects the values we embed within it. Its positive impact depends on how we shape, use, and sustain it.
>
> *Meline Grigoryan*

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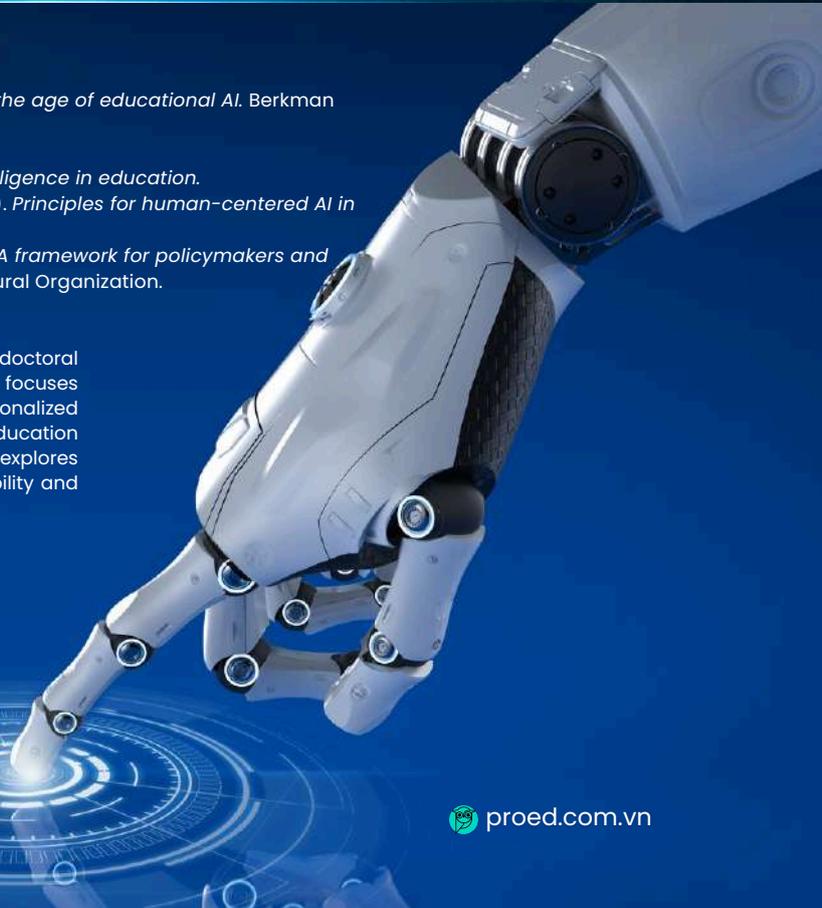
BALANCING AI AND HUMAN CONNECTION FOR

COMPASSIONATE TEACHING

Dr. Bilal Anwar & Angelica María Rojas Isaza

Humanizing education is both a calling and a necessity; one that has inspired us, as teachers, to reflect and write. This article emerges from that reflection, inviting a conversation about compassionate teaching in an age where AI is transforming how we teach, learn, and connect. We are living through a profound moment of educational transformation. AI tools - ranging from ChatGPT and Grammarly to personalized learning platforms - are increasingly embedded in classrooms, universities, and online spaces. These technologies bring speed, efficiency, and scalability; yet, they also compel us to ask deeper questions: **What does it mean to teach with empathy, to be present, and to genuinely care in a tech-driven era?**

Let's begin by defining what compassionate teaching really means. According to Gibbs and Costley (2006), compassionate teaching involves recognizing the emotional, social, and cognitive complexity of learners. It's about seeing students as whole individuals and responding to their struggles; not just their academic challenges; with empathy, patience, and humanity. This approach is not about being soft or sentimental. On the contrary, it is rigorous, relational, and deeply responsive. So, where does AI fit into this picture?

AI has the power to personalise content, automate feedback, and streamline administrative tasks. As Holmes et al. (2022) note, AI can free up teacher time, allowing educators to focus more on high-value tasks like mentoring and pastoral care. In theory, this gives teachers more capacity for compassionate engagement. But there is also a danger here: if we become too reliant on AI, we risk losing the subtle, embodied practices that make teaching *human* such as eye contact, tone of voice, shared silence, and spontaneous dialogue.

This is the kind of scenario we, as teachers, encounter daily in our classrooms. Earlier this year, a student submitted an essay that was clearly AI-generated: the grammar was flawless, the structure impeccable, but it lacked a voice. When asked why she had used AI, she replied, *"I didn't want you to see how bad my English is."* That simple yet profound response revealed what often lies behind the so-called "misuse" of AI: a story of fear, shame, or disconnection. In that moment, compassionate teaching meant sitting beside her, listening to her story, and helping her find the confidence to express herself in her own voice. This brings us to the heart of today's conversation: balance.

How can we embrace AI as a tool to support learning without losing the warmth, vulnerability, and mutual recognition that lie at the core of education? Here are three ideas to consider:

1. Use AI to support, not replace, relationships

While AI can help us track progress, suggest targeted interventions, and reduce repetitive tasks, human relationships cannot be automated. As Bell Hooks (1994) powerfully reminds us, *"To teach in a manner that respects and cares for the souls of our students is essential if we are to provide the necessary conditions where learning can most deeply and intimately begin"* (p. 13). Let AI do the heavy lifting, but never let it replace the human work of encouragement, listening, and presence.

2. Be transparent about AI

Students frequently feel compelled to conceal their use of AI tools out of fear—fear of judgment, academic penalties, or being perceived as inadequate. A compassionate pedagogical response involves creating space for open and honest dialogue about the role of AI in academic work. What constitutes ethical use? Where do we draw the line between support and substitution? By co-constructing guidelines for AI use in collaboration with students, we *cultivate* an environment of mutual trust, transparency, and shared accountability.

3. Teach digital literacy through a compassionate lens

Compassion isn't just about kindness, but also about *empowerment*. Helping students understand how AI works, its limitations, and how to use it ethically, is an act of compassion. We equip them not just to succeed in our classrooms, but to navigate a future where AI will be ever-present.

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In broader terms, compassionate teaching in the age of AI is neither about resisting technology nor embracing it uncritically. Rather, it is an invitation to remain grounded in our core values as educators. It prompts us to ask essential questions: *What kind of relationships do we wish to cultivate with our students? and how might we use these emerging tools to enhance; rather than undermine; the trust, care, and connection that make authentic learning possible?* No matter how advanced AI becomes, it will never be able to look at a student in the eye and say, "I believe in you," with the same depth and meaning that you, *as an educator*, can.

EDUCATING WITH EMPATHY IN AN AI-DRIVEN WORLD
EXPERIENCES FROM REAL CLASSROOMS

Striking a balance between AI and human connection in an English language skills class is crucial for harnessing the efficiency of technology while preserving the empathy, creativity, and personal interaction that only humans can offer. Below are examples from our experiences as educators in different contexts, demonstrating how we have successfully integrated this emerging technological tool into our students' learning processes.

✦ AI-powered writing feedback + Peer review sessions

During the essay-writing process, peer review sessions foster face-to-face interaction, allowing students to collaborate in small groups and focus on aspects such as creativity, tone, and personal expression—areas where AI feedback remains limited. AI tools like Grammarly, ChatGPT, or QuillBot can complement this process by providing students with instant feedback on grammar and vocabulary in their essays. To enhance the exercise further, incorporating checklists or peer assessment rubrics can provide structure and clarity to the process. Below is an example of the tools we have developed for our sessions:

Peer Review Checklist

Content and Organization:
- Does the essay have a clear thesis statement? ☐
- Are the main ideas well-developed with supporting details? ☐
- Is there a logical flow between paragraphs? ☐

Language and Grammar:
- Are there any noticeable grammar or spelling errors? ☐
- Are sentence structures varied and clear? ☐
- Is vocabulary appropriate for the target audience and purpose? ☐

Style and Tone:
- Is the tone consistent throughout the essay? ☐
- Does the essay reflect personal creativity and engagement? ☐

Formatting:
- Does the essay adhere to the assigned formatting guidelines (e.g., font, margins, word count)? ☐
- Are citations and references properly formatted, if applicable? ☐

Reviewer's Comments:
- Strengths of the essay: _____
- Areas for improvement: _____

Peer Review Rubric for an Essay

Criteria	Excellent (4)	Good (3)	Fair (2)	Needs Improvement (1)
Thesis Statement	Clearly defined and strongly supported throughout	Clear but could be better supported	Somewhat unclear or weakly supported	Missing or unclear
Organization	Logical and well-structured flow	Mostly logical with minor issues	Somewhat disorganized	Lacks logical flow or organization
Supporting Details	Rich, relevant, and fully support the main ideas	Adequate but could be more detailed	Limited or somewhat off-topic	Insufficient or irrelevant
Grammar/ Mechanics	Few to no errors	Minor errors that don't impede meaning	Noticeable errors, somewhat distracting	Frequent errors, very distracting
Creativity and Tone	Engaging, unique, and suitable tone	Appropriate but lacks originality	Inconsistent or uninspired tone	Dull or inappropriate tone

✦ AI chatbots for conversation practice + Live role-playing

Students can enhance their conversational English by practicing with AI chatbots such as ChatGPT, Replika, or ELSA Speak as part of their homework. In class, they transition to live role-playing scenarios, such as job interviews or debates, where they apply the skills learned in authentic, interactive settings. This approach bridges the gap between structured AI practice and the unpredictability of human interaction.

Implementation steps:

- Assigned chatbot-based conversations for fluency and vocabulary practice.
- Organized in-class role-play activities requiring spontaneous and situational responses.
- Conducted a debriefing session to discuss differences between interacting with AI and real people.
- Emphasized key nuances, including body language, tone, and emotional dynamics.

✦ AI vocabulary drills + Storytelling circles

AI flashcard apps, such as Quizlet or Anki, can be invaluable for helping students memorize vocabulary, particularly from the Academic Word List (AWL). These tools also prepare students for more interactive activities like storytelling circles or role-plays inspired by books or novels they have read, where they creatively incorporate the new words into personal and imaginative narratives. This method combines the efficiency of AI with the creativity and depth of human engagement, making vocabulary acquisition both effective and memorable.

Implementation steps:

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International exam preparation:
Using AI to transform basic sentences into more complex structures

Preparing students for international exams requires elevating their language skills from basic sentence structures and vocabulary to a deeper, more conscious level of use. AI tools play a pivotal role in this process, helping students refine their language while fostering independence. For instance, tools like ChatGPT assist in transforming simple sentences into more complex ones, such as rephrasing "I like reading books" to "I enjoy immersing myself in diverse literary genres." Similarly, apps like Quizlet or Wordtune expand vocabulary by suggesting synonyms, collocations, and contextual usage, encouraging students to replace overused words like good or nice with more precise alternatives. AI simulations also provide opportunities for contextual practice, offering tailored prompts on exam-related topics and immediate feedback to improve accuracy in grammar and word choice. In class, students apply these enhanced skills through role-playing and discussions, transitioning from mechanical repetition to natural fluency. Reflection activities further help them understand how AI feedback supports their development, creating a seamless blend of technology and human-centered learning that not only sharpens linguistic competence but also builds confidence for exam success.

Educational trends have undoubtedly undergone dramatic transformations in recent years. For this reason, it is imperative for teachers to stay at the forefront, continually updating our knowledge to provide students with the best learning tools. At the same time, we must never lose sight of the unique needs and realities of the environments in which we work. This awareness reminds us of the human essence of our students—individuals with dreams, expectations, and feelings, shaped by the homes and communities they come from. Let us embrace and integrate technology into our teaching, but always with the purpose of creating learning spaces that are humane, nurturing, and compassionate. In doing so, we honor both innovation and the profound connection that defines true education.

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BALANCING
AUTOMATION
& EMPATHY

HOW TEACHERS CAN THRIVE WITH AI

Mona Sawan

The chalkboard is gone.
The gradebook is digital.

Classrooms have changed significantly over time. The chalkboard has been replaced by digital screens, and paper gradebooks are now stored online. Today, AI offers a new transformation for education, promising efficiency and innovation. However, this raises an important question: **What impact does AI have on the human side of teaching?**

THE HUMAN-AI TIPPING POINT

Take Ms. Rivera, a 5th-grade math teacher whose story could belong to any educator teetering on the edge. Last year, she nearly walked away from the profession she'd loved. The reason was not her students or her salary. *"I became a data clerk,"* she confesses. *"Nights I should've spent crafting engaging lessons were lost to feeding dashboards."*

Her school, sensing the crisis, piloted a solution they called "AI with Guardrails." It wasn't about handing the classroom over to machines; it was about striking a balance. This program was designed to:

- Automate repetitive tasks, such as grading and attendance tracking.
- Reserve 50% of class time for direct interaction between teachers and students.
- Identify student difficulties without deciding how to solve them.

The result? A teacher reborn. *"Now I remember why I became a teacher,"* she says, her eyes lighting up.

Her experience reflects a challenge faced by educators worldwide. According to a 2024 EdWeek survey, 58% of teachers feel burdened by AI tools. At the same time, a 2023 Gallup poll shows that 92% of students value feedback from teachers over automated responses. AI is undeniably a force of nature in education, capable of reshaping how we teach and learn.

But the question looms large: does it *assist* educators—or risk *replacing* what makes teaching an art?

WHY AI CAN'T REPLACE THE HUMAN TOUCH

The neuroscience of connection

Teaching is more than delivering content—it's about relationships. A 2023 study in the Journal of Neuroscience revealed that when teachers show genuine empathy, students' brains release oxytocin, a hormone that fosters trust. This chemical cascade doesn't just warm the heart; it strengthens social bonds and boosts memory retention by as much as 25%. For example, when a student struggles with a math problem, an AI tool might provide a correct explanation. But it's the teacher who kneels beside them, offering a quiet "You've got this," that triggers the oxytocin surge—turning a moment of doubt into a memory that sticks.

No algorithm can replicate this biological bond. AI can provide information, but it does not understand a student's feelings, such as confidence or frustration. Only a human teacher can interpret *how* that information affects a child's confidence and motivation. That's the magic of teaching: It's less about the "what" and more about the "who."

The engagement paradox

Engagement is essential for learning. A 2023 Cambridge study tracked 200 schools and found clear differences. In classrooms where only AI was used, student well-being decreased by 15%. In contrast, when teachers combined AI with their own guidance, student engagement increased by 30%. This happened because teachers used AI data to offer personalized help.

Mr. Alvarez, a 20-year veteran of high school English, describes his experience, *"My AI assistant spots the struggling student. But only I know Jamal needs a high-five, not a pop quiz."* AI provides information about a problem, but teachers choose the best way to address it based on their understanding of each student. That's the paradox: AI can point the way, but only a teacher can walk the path with a student.

BEST PRACTICES: THE TEACHER'S AI PLAYBOOK

✦ Co-teaching with AI: The 3-day feedback loop

Using AI effectively means working together with it, not letting it take over. Here is a three-day feedback loop that turns AI into a co-teacher, not a replacement:

- **Day 1:** AI grades essays using a tool like Turnitin. The teacher checks the results to ensure they are accurate.

- **Day 2:** The teacher adds personal comments, noting each student's strengths and areas for improvement.

- **Day 3:** AI suggests changes to the essays. The teacher uses this information to discuss the work with students individually.

A useful idea is to ask students to compare AI feedback with the teacher's comments. This helps them think critically about the differences and improves their skills.

Here's a pro tip to take it further: Invite students into the process. Have them compare the AI's feedback with their teacher's comments, sparking debates about tone, intent, and accuracy. It's not just a lesson in writing—it's a masterclass in critical thinking, teaching kids to them think critically about the differences and improves their skills.

✦ Co-teaching with AI: The 3-day feedback loop

The bias problem

AI isn't neutral—it reflects the data it's trained on. Stanford researchers (2024) found alarming biases in AI-powered learning tools. Black students expressing frustration were mislabeled as "angry" 30% more often than their peers. It also mistook confusion from English-as-a-Second-Language (ESL) students as "lack of effort" 40% of the time. These mistakes show that AI can misunderstand emotions or situations. These aren't just errors; they're echoes of the biases baked into the datasets AI learns from.

The antidote: Human oversight

Teachers should always question AI's recommendations. Before acting on AI-generated alerts, ask your student, *"I noticed the system suggested extra drills. How are you really feeling about this topic?"* This question invites context and helps the teacher understand the student's real needs, ensuring AI supports, rather than harms, them.

✦ When AI gets it wrong – Teacher triumphs

At Oakridge Middle School, AI recommended intensive math drills for Maria, an ESL student. However, her teacher noticed something different. Maria *did not need more practice—she needed pictures to understand the math problems.* By using visuals instead of worksheets, her teacher helped Maria succeed. AI saw her wrong answers; her teacher saw *her potential.* This is where AI *fails*: **It processes data but doesn't understand *context.***

THE ETHICAL CONCERNS OF AI IN EDUCATION

✨ Data privacy: Who owns student information?

Every click, every quiz, every hesitation—AI tools hoover up student data like digital vacuums. It's a treasure trove that powers personalization, but it raises thorny questions. *Who controls this data—schools, tech companies, or students? Can this data be used for commercial purposes? How can schools ensure student data remains protected?*

Educators must demand clear policies on AI data usage. Schools should implement:

- Strict Data Governance – Ensure AI tools comply with student privacy laws
- Informed Consent – Parents and students must understand how AI processes their data
- Right to Opt-Out – Students should be allowed to reject AI-driven evaluations

✨ AI bias: A hidden threat

AI is trained on historical data, which often carries societal biases. In schools, this can cause problems. For example, AI might misunderstand cultural expressions—like certain ways of speaking or writing—and mark them as wrong, even though they're just different. This can make students from diverse backgrounds feel excluded or unfairly judged. AI can also unfairly treat students with learning disabilities. If a student writes differently or takes longer to respond, the AI might see that as a lack of understanding, even though it's just a different way of learning. Another issue is gender bias in STEM subjects like science and math. AI might suggest certain careers more often to boys than girls or show more male role models in STEM. This can discourage girls from pursuing these fields, even if they're just as capable.

To counteract these issues, schools can take proactive steps such as conducting monthly audits of AI decisions, diversifying training data to reduce embedded bias, and requiring human review of AI-generated insights to ensure fairness and accuracy.

The Future: A Blueprint for Schools

THE FUTURE: A BLUEPRINT FOR SCHOOLS

✨ AI review teams

- **How to implement:** Create a team with two teachers, one student, and one technology expert.

- **Process:** Meet every month to examine AI tools. Look at the data they produce and check for mistakes or unfair patterns. For example, if AI suggests extra work for certain students, the team asks: Is this suggestion helpful or harmful?

- **Goal:** Ensure AI improves learning and treats all students fairly. After each meeting, the team shares a report with the school, suggesting changes if needed.

✨ Vendor transparency

- **How to implement:** Schools must ask AI companies clear questions about their tools.

- **Process:** Request details about the data used to build the AI. A key question is, "What demographic groups were underrepresented in your datasets?" For instance, if the data lacks input from rural students, the AI might not work well for them. Schools can then demand updates to make the tools fairer.

- **Goal:** Build trust by ensuring companies are honest. A 2024 ISTE survey showed 67% of teachers want this information.

✦ Student voices matter

AI should amplify students, not just streamline their lessons. Javier, an 8th grader with a knack for algebra, sums it up: *"ChatGPT explains algebra well, but Ms. Thompson makes me believe I can do it."* This distinction is critical: AI *delivers information*, but teachers *inspire belief.*

- **How to implement:** Ask students for their opinions about AI tools.

- **Process:** Hold discussions or surveys. Teachers can use this feedback to adjust how they use AI, focusing on encouragement, not just explanations.

- **Goal:** Make sure AI supports students' needs and builds their belief in themselves.

HOW TEACHERS CAN PREPARE FOR THE AI REVOLUTION

✦ Professional development: Building AI literacy

Before educators can integrate AI into the classroom, they need a firm grasp of what it is—and what it isn't. Professional development should be intentional, accessible, and ongoing, focusing on three key pillars:

- **Understanding how AI works (and its limitations):** Demystifying AI is the first step. Teachers should learn about machine learning and large language models. Equally important is recognizing where AI fails—its inability to reason like humans, its biases, and its dependence on data quality.

- **Ethical AI usage in classrooms:** With great power comes great responsibility. Teachers must be trained to navigate issues such as student privacy, algorithmic bias, and the ethical implications of automated decision-making.

- **Balancing automation with human connection:** AI can handle repetition, personalization, and data analysis—but it cannot replace empathy, mentorship, or the magic of human relationships. Teachers should learn when to lean on AI and when to lean in as human guides.

✦ AI-assisted lesson planning: Working smarter

Time is a teacher's most precious resource. With AI tools, educators can reclaim hours every week—without sacrificing quality.

- **Generate dynamic lesson outlines:** From warm-ups to wrap-ups, AI can help craft comprehensive lesson plans aligned with standards, learning objectives, and student interests. Teachers can then refine these plans with their own voice and classroom context.

- **Suggest personalized learning paths:** AI can analyze student performance data to propose differentiated instruction—meeting students where they are and guiding them forward. It's like having a co-pilot for personalized learning.

- **Identify learning gaps in real time:** Instead of waiting for end-of-term results, teachers can use AI-driven tools to spot misconceptions as they emerge, allowing for immediate intervention and support.

The result? More time for creative teaching, deeper engagement, and meaningful one-on-one interactions with students.

✦ Rethinking assessment in the AI era: Beyond the sheet

In a world where AI can ace standardized tests, traditional assessments are losing relevance. The future lies in evaluating what machines can't do.

- **Embrace project-based learning to evaluate critical thinking:** Students should demonstrate mastery through real-world applications—research projects, design challenges, multimedia storytelling—that showcase critical thinking, problem-solving, and synthesis.

- **Encourage peer reviews to foster collaborative assessment:** Involving students in evaluating each other's work, educators can promote critical thinking, reflection, and communication—skills essential for the modern world.

- **Leverage AI-augmented assessments for real-time feedback:** AI-powered tools, such as writing assistants and auto-grading platforms, provide instant, personalized feedback to students, freeing teachers to focus on deeper instruction and mentorship. When used responsibly, AI acts as a mirror, reflecting student progress and growth rather than just evaluating performance.

AI is here to stay. But its true power lies not in replacing teachers, but in empowering them.
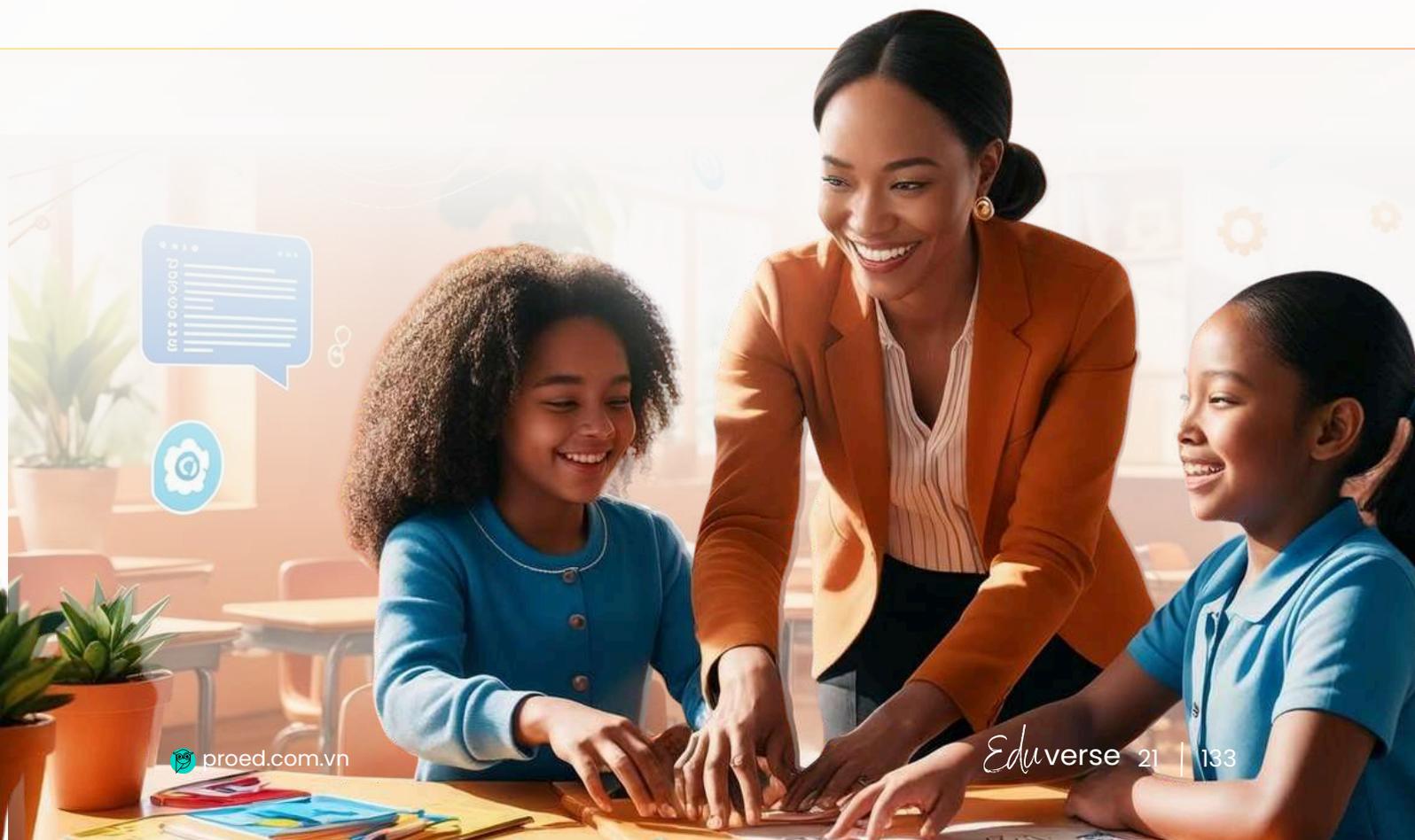
THE IRREPLACEABLE ART OF TEACHING

AI is the scalpel—precise, sterile, revolutionary. But teachers are the healers, bringing in warmth and understanding. They:

- Support students when they feel unsure.
- Help them turn ideas into achievements.
- Inspire them in ways technology cannot.

As As education embraces AI, we stand at a crossroads, but the goal is clear: **"Automate the measurable; humanize the meaningful."** If implemented thoughtfully, AI can free up teachers to do what they do best—connect, inspire, and support every learner.

> **The call to action is simple, but urgent.**
> - Let's design AI tools with teachers, not just for them.
> - Let's protect the human side of learning, even as we embrace innovation.
> - And let's ensure that in the age of algorithms, it's still empathy that leads the way.

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EMPOWER EDUCATORS WITH AI

Latin America
LESSONS FROM

Angelica María Rojas Isaza

AI is increasingly recognized as a powerful tool in teacher education, offering valuable support for lesson planning, research, and continuous professional development. However, its integration also brings new challenges and calls for a fundamental shift in teaching approaches. The rapid pace of technological development—especially since the 2020 pandemic—has pushed educators to adopt new tools, including interactive platforms and digital resources. While these technologies offer many benefits, they can also feel overwhelming without sufficient preparation and training. In the context of Latin America's educational systems, these challenges can be even more complex due to a range of social, economic, and infrastructure factors.

RETHINKING TEACHER DEVELOPMENT
IN THE AGE OF AI

Current research increasingly explores how AI can enhance teacher training. Studies investigate how AI improves teaching and learning in higher education, identifies essential research skills for educators, and outlines effective strategies for integrating AI in the classroom (Pérez & González, 2024). Other work examines AI's rapid advancement through the lens of connectivity theory, analyzing its impact on teaching practices (Rondon-Morel & Pacotaipe-Delacruz, 2024).

Addressing the question of AI's impact on teacher education, research consistently reveals significant and multifaceted effects. Findings suggest AI improves teacher preparation by offering innovative tools and efficient methods. Despite its potential, several challenges persist. Some educators remain hesitant to integrate AI into student learning processes. Ethical concerns have also emerged, particularly regarding the risks of bias in machine learning algorithms. As Pedace et al. (2023, cited in García-Perales et al., 2024) warn, if not carefully managed, these algorithms can reinforce existing biases related to hiring, healthcare, finance, and justice. Addressing fairness and algorithmic bias is therefore a critical task.

In recent years, researchers have begun examining the responsible use of AI tools like ChatGPT in higher education. Although the topic is still under discussion, many university teachers and researchers already make use of such tools, both in their lectures and in their research and academic production exercises. In Latin America, some studies are beginning to explore important issues such as data privacy, user control, digital ethics, and related concerns.

Equally urgent is the need to incorporate AI literacy into official curricula and develop methods for teachers to distinguish between AI-generated and student-created work. This raises complex issues of academic integrity and plagiarism that require ongoing reflection and policy development (García-Perales et al., 2024). With regard to the integration of AI into university curricula, many teachers and academic researchers have incorporated AI into their pedagogical work, and even specialized conferences for teachers are increasingly focusing on this curricular adaptation. This, in turn, implies a constant, permanent and enhanced teaching update, which contributes to the adaptation of the current curriculum.

TEACHER TRAINING AND TECH INTEGRATION:
SHARED CHALLENGES

Educators in the 21st century face complex challenges, reflecting the rapidly evolving educational landscape, technological advancements, and societal changes. In Latin America, several factors continue to impact educational processes, including the incorporation of new information and communication technologies, especially in terms of the use of AI in classrooms.

Latin America has been steadily advancing in the integration of information and communication technologies (ICTs) into its education systems. However, one of the most pressing challenges lies in ensuring equitable access to technology and internet connectivity for all students. Addressing the issue of internet access in schools requires a multifaceted approach capable of bridging the digital divide and guaranteeing quality education for every student, regardless of their geographic location or socioeconomic background.

This leads us to a vital question: How well are universities and schools preparing their teachers to use these new technologies effectively? This preparation varies significantly depending on the region, the level of investment in technological infrastructure, and the priority that each institution gives to on-going training.

Among the most common challenges are

Insufficient technological infrastructure: Many institutions lack access to up-to-date devices, modern learning platforms, or stable internet connections, limiting opportunities for effective training.

Outdated or insufficient training: While some universities offer workshops or courses on educational technology, they are not always designed to respond to the practical needs of teachers or the pace of tech advance.

Lack of institutional strategy: Teachers must resort to their own economic, time and logistical means to support their professional development. There are often no strategic plans at the institutional level that integrate the technological training of teachers as a priority axis.

In terms of regional inequalities, in countries with large socio-economic gaps, institutions in less developed areas are often at a clear disadvantage compared to urban ones. Although there are leading institutions that actively implement technologies and teacher updating programs such as adopting digital platforms, promoting teachers' learning networks, and offering continuous technical support. But for lasting impact, it is crucial that they be accompanied by education policies at the national level that prioritize investment in technology and teacher training.

CASE STUDY:
COLOMBIAN UNIVERSITIES LEADING THE WAY

Colombia is a country with great potential for technological and economic advancement that has experienced remarkable progress in its digital transformation. In fact, it is considered one of the digital frontrunners in Latin America and the Caribbean. According to the World Bank, internet usage in the country increased from 38% in 2014 to 63% in 2022. In 2023, Colombia presented its National Digital Strategy 2023-2026, which aims to harness the potential of digital transformation to overcome economic, social and environmental challenges.

Within this framework of technological and economic progress and updating, some universities have opted to provide their teachers with opportunities to update their skills.

- **Universidad del Valle,** in 2024, through its Directorate of New Technologies and Virtual Education (DINTEV), designed a pilot workshop to train teachers in the use of AI as a pedagogical tool. This workshop, responding to the internal need for AI training, was to provide guidance on the uses and possibilities of AI-based information systems, promoting a reflexive and early adaptation to these technologies in education.

- The Interuniversity Synergy Initiative, also in 2024, brought together four universities — **Universidad Central, Universidad de La Salle, Universidad Católica,** and **Universidad de Bogotá Jorge Tadeo Lozano**. They hosted an intensive bootcamp for 80 professors, offering hands-on workshops on AI in education, including the creation of AI rubrics, design of virtual tutors and strategies for research. The event culminated with a *hackathon*, fostering collaborative learning and pedagogical innovation using AI.

- **Universidad Minuto de Dios** introduced two AI-based tutors, *Mía* and *Leo*, to collaborate in the continuous training of teachers, providing them with tools to improve their pedagogical methods and adapt to new technologies.

These successful experiences show how institutions can lead meaningful change when they combine internal needs, collaborative planning, and a long-term vision for education.

TOWARD A FUTURE OF
HUMAN-CENTERED AI INTEGRATION

Although significant strides have been made, there is still a long road ahead —individually, professionally, institutionally, and at the governmental level. Still, the foundations are in place to embrace technological change and respond to the evolving needs of our students.

Dispelling myths and fears is a crucial first step. Equally essential is fostering a culture of digital responsibility among students—not only to safeguard their integrity but also to reinforce our role as facilitators and mentors in this new era of education.

Through informed choices and collective effort, we can ensure that technology serves as a true partner in advancing equity, quality education, and meaningful learning across Latin America and beyond.

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HUMANIZING AI IN THE CLASSROOM

Dr. Vahid Norouzi Larsari

AI has been steadily making its mark in education by offering innovative solutions for personalized learning, administrative efficiency, and improved student outcomes. However, while AI has undeniable potential, its relationship with empathy—an essential component of human interaction in education—raises important questions, particularly regarding its impact on teachers, students, and the design of AI systems.

This article explores the evolving relationship between AI and empathy in education—how AI can support (and at times challenge) human connection in teaching and learning. It also highlights the importance of inclusive, ethical, and human-centered approaches in AI design and implementation.

So, amid this rapid technological integration, one critical question persists: ***Where does empathy fit in?***

THE POWER OF AI IN THE CLASSROOM

The application of AI in education offers enormous potential to improve student learning. AI can help with individualized learning, in which each student receives lessons tailored to their requirements and development. Additionally, it can help with grading, automate administrative duties for teachers, and offer real-time feedback. To provide students with more dynamic and captivating learning environments, AI-powered solutions such as chatbots and intelligent tutoring systems are also being used (Al-Zahrani, 2024).

Moreover, AI can help identify learning gaps early, provide multilingual support, and assist learners with disabilities, thereby fostering more inclusive classrooms. Predictive analytics derived from student data can inform educators about at-risk students and enable early interventions. These capabilities, when ethically implemented, can greatly support educators in managing increasingly complex classrooms.

AI AND EMPATHY: WHAT TECHNOLOGY CAN'T REPLACE

Empathy is a human trait that AI systems currently struggle to replicate. Although AI can help with educational problems, it lacks the emotional intelligence needed to completely comprehend the emotional states and personal experiences of pupils. This disparity is most noticeable when kids need emotional assistance, which AI as it exists now is unable to offer. AI tools can occasionally take the role of face-to-face encounters for educators, which could weaken the sympathetic bond between them and their students. But AI can also be developed to support instructors in their work, giving them more time to concentrate on engagement and emotional support (Nguyen et al., 2022).

For instance, AI-powered analytics might detect behavioral patterns indicative of emotional distress, alerting teachers to follow up with appropriate care. In this way, AI can complement rather than compete with human empathy. Still, there is a risk that overreliance on AI for student monitoring and interaction might create emotional distance. Educators may feel pressured to depend on algorithmic feedback rather than their own intuition. Therefore, empathy must remain a priority in educational practice, and AI should be viewed as a supporting tool rather than a substitute for human presence.

DESIGNING EMPATHY INTO AI: CENTERING HUMANS IN THE LOOP

The development of AI systems with empathy at its core is ensured by empowering educators, students, and other stakeholders in the design process. By allowing teachers and students to co-design AI systems, developers can produce tools that tackle real-world problems and preserve a balance between technology and human interaction, which builds trust and guarantees that AI systems enhance rather than replace human engagement. Additionally, AI should be transparent, explainable, and inclusive to ensure that it meets a range of educational needs (Al-Zahrani, 2024).

Integrating empathy into AI design means including affective computing research and insights from psychology and pedagogy. Developers must consult with social scientists, teachers, and learners to ensure that AI tools not only perform tasks efficiently but also reflect the values and emotional dynamics of the learning environment. When educators are empowered to shape these tools, they are more likely to trust and adopt them meaningfully. Furthermore, involving students in these conversations can help center their needs and preferences, especially those from marginalized communities whose voices are often underrepresented in Edtech development.

NAVIGATING THE CHALLENGES: ETHICS, EQUITY, AND WELL-BEING

Although AI presents numerous opportunities, there are significant challenges that need to be addressed to ensure its responsible and empathetic use in education:

DATA PRIVACY

The collection of sensitive student data raises concerns about how that information is used and protected. The integration of AI into educational environments introduces a range of ethical challenges that demand structured and responsible frameworks to safeguard student interests. A central concern is data privacy, as AI tools often rely on vast amounts of learner data—including performance metrics and behavioral patterns—to personalize educational experiences. This dependence heightens the risk of exposing sensitive student information, emphasizing the need for strict adherence to data protection regulations and secure data management practices (Ndungu, 2024; Weiner et al., 2024).

BIAS MITIGATION

AI systems are susceptible to biases, especially when trained on incomplete or biased data. This can lead to inequitable educational outcomes. AI systems trained on incomplete or skewed datasets can perpetuate and even amplify existing inequalities in education. For example, an AI-powered language application may overlook regional dialects or cultural nuances if its training data lacks diversity. Such bias can disadvantage underrepresented student populations. To counteract this, developers must ensure inclusive and representative datasets and conduct continuous assessments to uphold fairness and equity in AI tools (Bozkurt et al., 2023).

TRANSPARENCY

Transparency is also essential to ethical AI deployment. Students and educators need to understand how AI tool's function, what data is being used, and how decisions are made. Clear communication and documentation can build trust and accountability in AI-driven systems, promoting informed and responsible usage. Many AI systems operate as "black boxes," making it difficult for educators and students to understand how decisions are made. Transparency is crucial for fostering trust.

WELL-BEING

The pressure of AI's increasing role in education may negatively impact the mental health of both students and teachers, leading to feelings of isolation and burnout. AI tools must support student well-being, foster inclusive, transparent, and empowered learning environments. Ethical AI in education should enhance learning without compromising personal values or creating new forms of digital inequity. The emotional demands of adjusting to AI-driven systems can be overwhelming, especially for educators who feel displaced or underprepared.

ACADEMIC INTEGRITY

The impact of AI on academic integrity cannot be overlooked. Tools like ChatGPT, while beneficial for brainstorming and enhancing writing skills, can be misused for plagiarism or bypassing academic effort. To preserve academic honesty, educators must provide explicit guidelines on ethical AI usage and integrate AI literacy into their teaching. This approach helps students differentiate between constructive support and dishonest practices (Ndungu, 2024; Zawacki-Richter et al., 2019). In addition, the use of AI tools like plagiarism checkers must be balanced with the preservation of academic integrity to prevent misuse.

PROFESSIONAL DEVELOPMENT

Teachers need ongoing training to effectively integrate AI in their classrooms while maintaining empathy and human-centered pedagogy (Ndungu, 2024). Training should not only focus on how to use AI tools, but also how to critically assess their limitations, ethical considerations, and alignment with learning goals. This professional learning must be iterative and responsive, grounded in real-world classroom needs.

These challenges underline the importance of designing AI systems that are ethical, transparent, and supportive of human needs, fostering an environment where both students and educators can thrive.

AI presents significant opportunities to improve education by offering personalized learning, efficiency, and data-driven insights. However, the absence of empathy in AI systems presents a challenge, as emotional and social intelligence are key components of successful teaching and learning. To ensure that AI supports empathy rather than undermines it, human stakeholders, especially teachers and students, must be involved in the design, development, and implementation of AI tools. Furthermore, ethical challenges such as data privacy, bias, and transparency must be addressed to ensure that AI contributes positively to educational outcomes.

Looking ahead, the key lies in harmonizing the strengths of AI with the irreplaceable human capacities of care, connection, and ethical judgment. By centering empathy in the development and deployment of AI systems, we can create educational environments where technology amplifies rather than erodes the heart of teaching and learning.

Dr. Vahid Norouzi Larsari is a postdoctoral researcher fellowship at the University of Mazandaran, Iran, with a PhD in Education from Charles University, Prague. He is currently collaborating with Manipal GlobalNxt University in Malaysia as Adjunct Professor both main Supervisor for PhD and Master Students and Teacher at School of Education. His research primarily focuses on educational technology and AI in Education.

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* Scan the QR codes or click on the titles to read more.

When students use AI in ways they shouldn't

Jen Roberts explores how teachers can respond when students misuse AI in their assignments. She emphasizes curiosity over judgment, encourages open-ended conversations to understand students' motivations, and uses these moments as learning opportunities to support growth and integrity in writing.

The power circle: A human-centered approach to AI strategy with design thinking

This article highlights how The AI Power Circle helps school leaders move beyond hype to thoughtfully integrate AI by identifying real problems, fostering alignment, and building shared visions through design thinking.

How artificial intelligence can personalize education > Instructors can leverage AI to help students learn better

AI is revolutionizing education by personalizing learning, supporting diverse needs, and assisting teachers. With tools like Khanmigo and Duolingo, AI helps close equity gaps and enhance student engagement, while freeing educators to focus on mentorship and creativity.

Educating kids in the Age of A.I. | The Ezra Klein show

The video explores how AI is reshaping education, raising concerns about declining student engagement, reading habits, and the erosion of essential thinking skills. Rebecca Winthrop urges a rethink of education's purpose—from job prep to nurturing flexible, motivated learners.

The human connection: Motivation and Social Learning

This paper discusses while technology offers great potential, not all learners have benefited equally, with concerns about a "lost generation" emerging due to negative online learning experiences.

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Getting started with AI in the language classroom

Suzanne Mordue's article offers practical tips for introducing AI in the language classroom, highlighting tools like chatbots, avatars, and drawing apps to personalize and enhance learning.

Integrating human-AI collaboration in education: A new approach to curriculum design

This paper explores how digital technologies enhance personalized and collaborative learning, highlighting that adaptive platforms and online tools can boost engagement and outcomes. It also emphasizes the continued importance of teachers.

Newark students learn the basics of AI as they weigh its use in their future careers

High school students in Newark are learning how to use AI responsibly to help them explore AI's role in future careers, emphasizing practical skills, ethical considerations, and human-centered qualities like empathy.

How AI and human teachers can collaborate to transform education

No two days are the same and what might have worked once in a classroom, might not work again. Employing a variety of teaching methods tailored to the diverse needs of learners fosters meaningful engagement and active participation.

Balancing AI and human agency in education

The article advocates for educational approaches that leverage AI's capabilities while maintaining the central role of human educators in guiding and mentoring students.

TECH

TIPS AND TOOLS

Welcome to **Tech Tips & Tools**, your go-to resource for staying ahead in the digital age of education. Each month, we'll bring you handpicked tech tips and tools designed to empower teachers and learners. From innovative classroom apps to strategies for integrating technology into your classroom practices to enhancing teaching and learning experiences.

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PLAYFUL IDEAS FOR USING WEB-BASED VR IN CLASSROOMS

MYSTERY LOCATION CHALLENGE

Recommend web: *The Secret Door*

Activity: Students click the virtual door to land in a random VR panorama, then create a clue-based riddle about the location (e.g., "I'm a stone city in the Andes"). Peers guess the site.
Why fun: Random destinations and riddle-making spark excitement and collaboration.
Learning goal: Enhances geography knowledge and creative communication skills.
How to do: Compile riddles into a class booklet; use a world map for guesses.

TIME TRAVELER'S JOURNAL

Recommend web: *Google Arts & Culture*

Activity: Students tour a historical site, select an artifact, and write a journal entry as a person from that era, describing its significance (e.g., a Roman gladiator's armor).
Why fun: Role-playing history through vivid tours ignites imagination.
Learning goal: Builds historical empathy and narrative writing skills.
How to do: Share entries in a class blog or oral presentation with artifact images.

AERIAL ECO-DEBATE

Recommend web: *AirPano*

Activity: Students explore an aerial panorama (e.g., Amazon rainforest), research an environmental issue (e.g., deforestation), and debate solutions in teams, using visuals to support arguments.
Why fun: Stunning views and debates create dynamic, persuasive discussions.
Learning goal: Develops environmental awareness and critical thinking.
How to do: Provide debate prompts; record arguments for peer feedback.

IMMERSIVE STORYBOARD CREATION

Recommend web: *Any of the 3 tools*

Activity: Students explore a VR tour on any tool, then create a storyboard for a fictional story set in that location (e.g., adventure, historical tale, or eco-mission).
Why fun: Vivid tours inspire creative storytelling and visual planning.
Learning goal: Boosts creative writing and visual literacy skills.
How to do: Use paper or digital tools; display in a class gallery.

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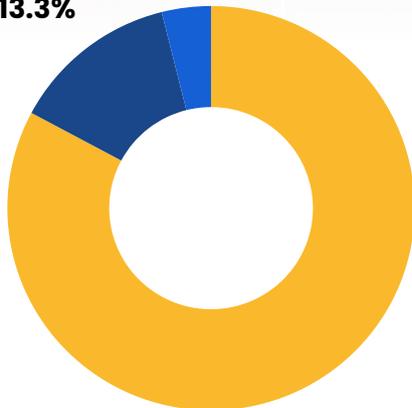
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Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree

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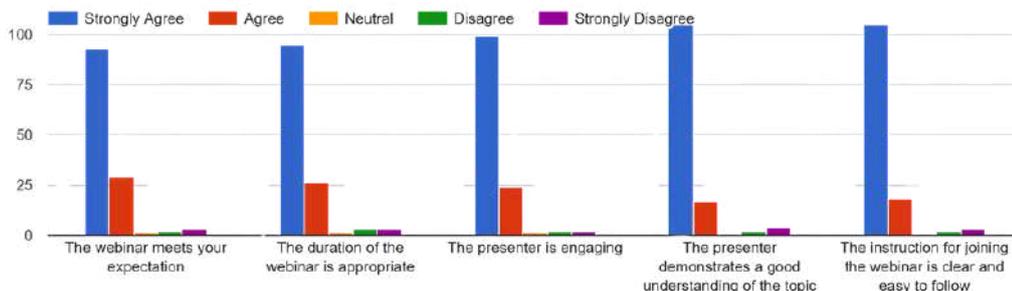
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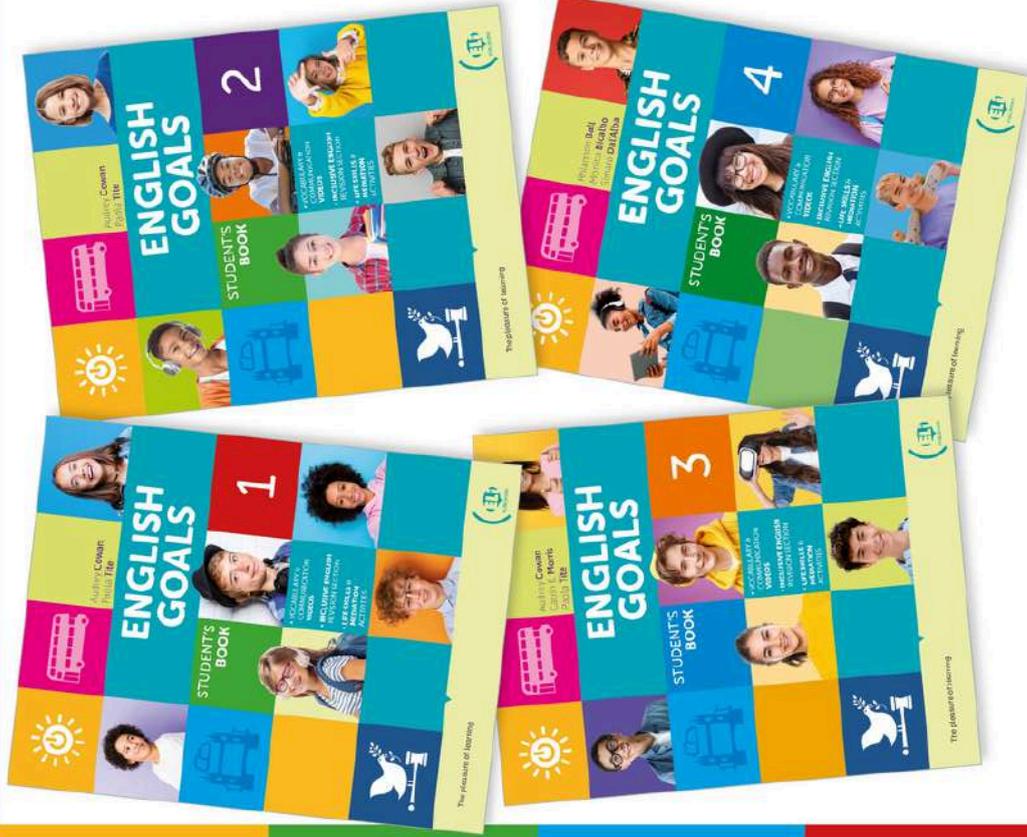
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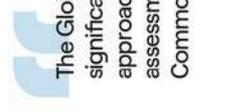
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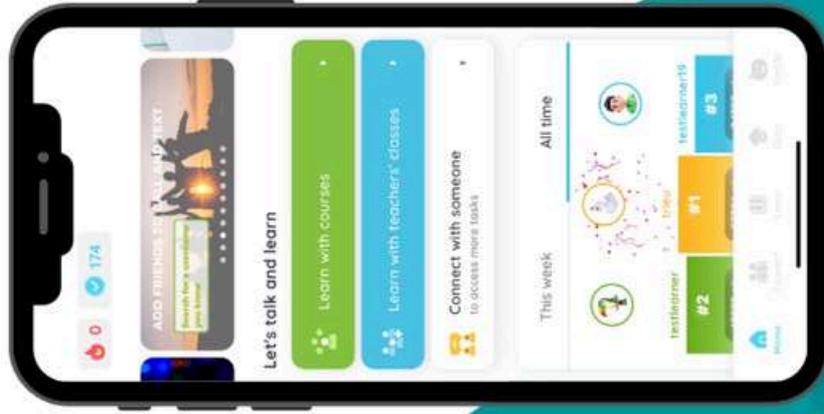
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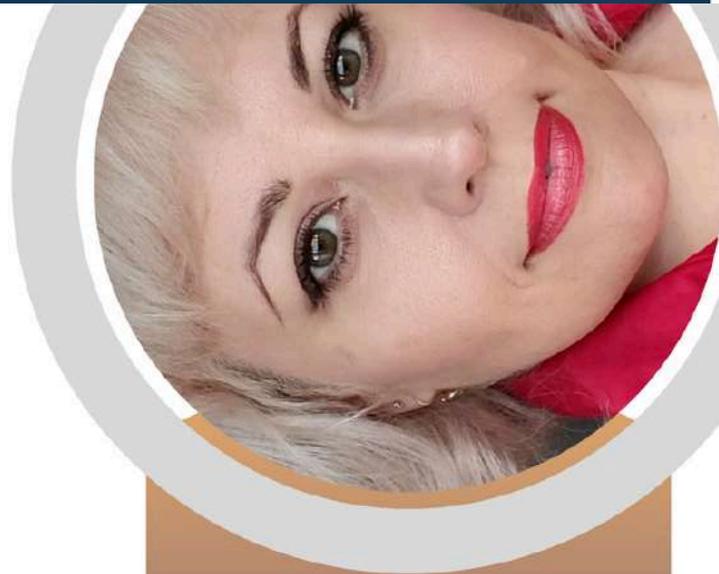
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