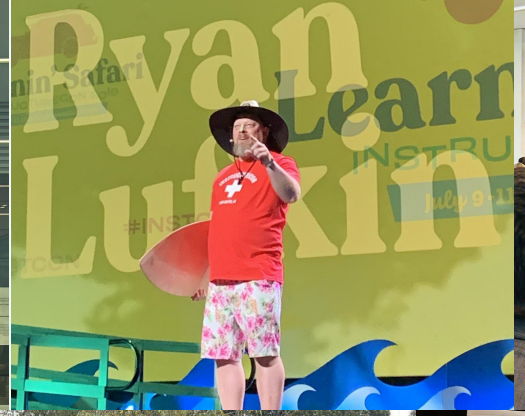
THE ACADEMIC STRATEGY TEAM 2025

Success Stories from the Generative AI Revolution for Workforce Development

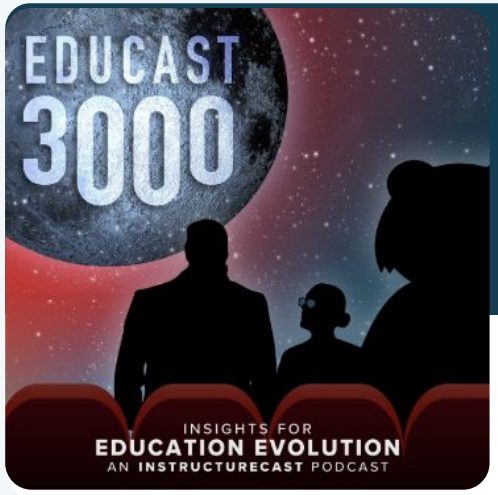
Ryan Lufkin

VP of Global Academic Strategy





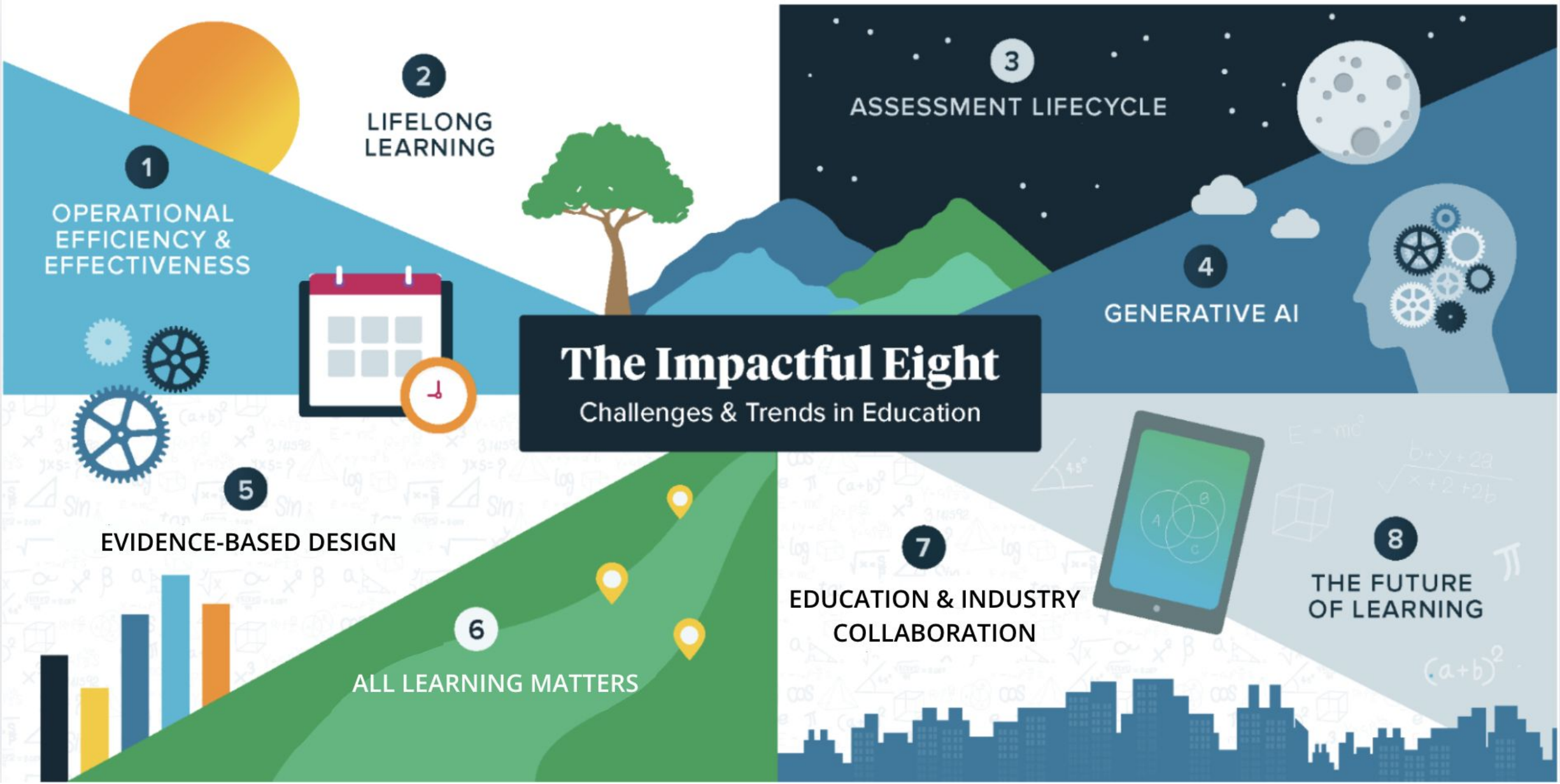



Melissa Loble & Ryan Lufkin
Hosts of the Educast 3000 Podcast
InstructureCast.com

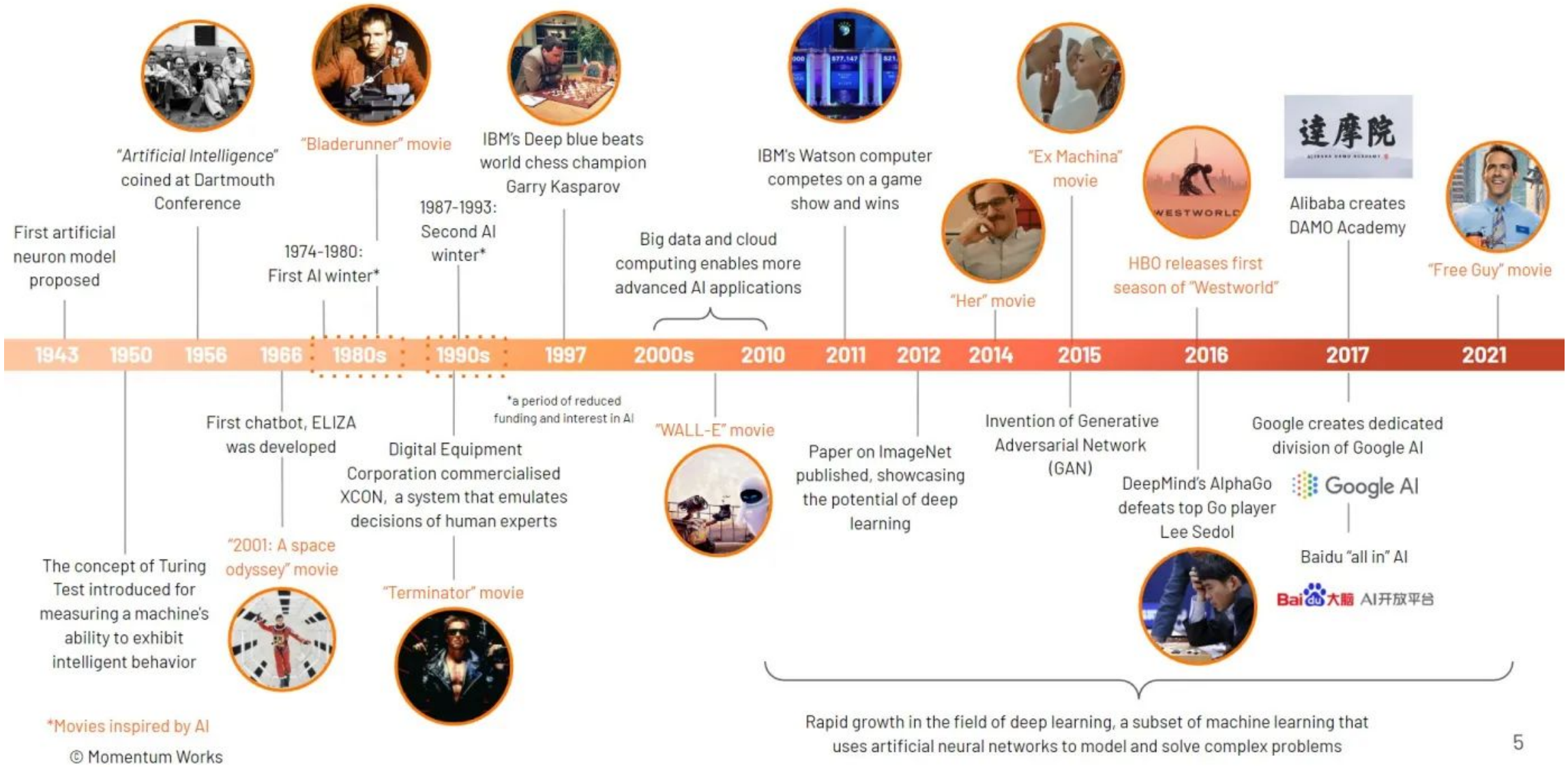
FEATURED IN: Newsweek · The AI Journal · eSchool News · ES DE LATINO · EL ESPECTADOR · The Manila Times · Forbes · UB University Business · U.S.News & World Report · CAMPUS TECHNOLOGY · BW · EdTech Focus On K-12 · EL COLOMBIANO

WHAT ARE THE “IMPACTFUL EIGHT”?

In an era marked by profound transformation and upheaval, these are the eight overarching trends we anticipate will significantly influence education across all levels and worldwide in the next 2-5 years.

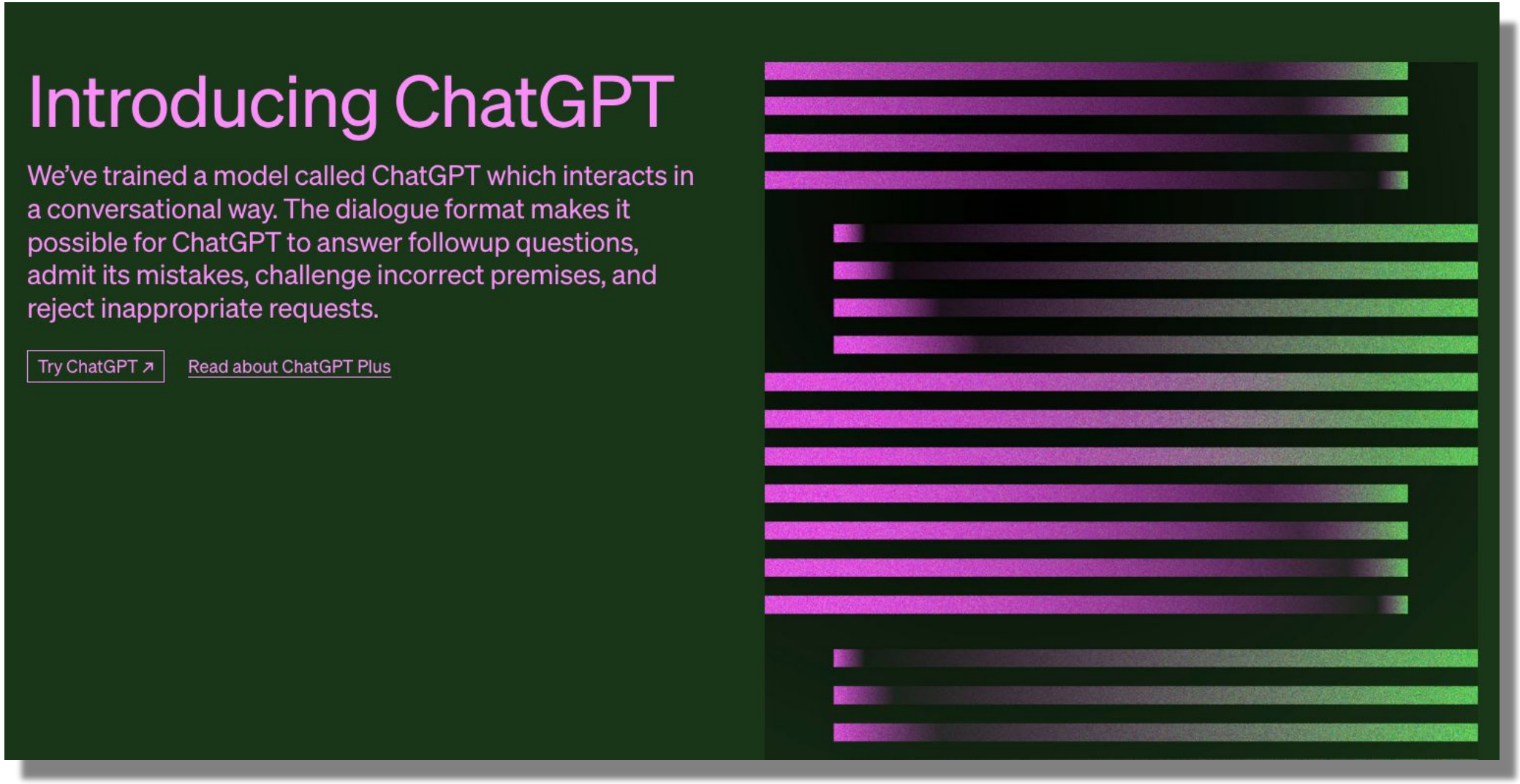

1
OPERATIONAL EFFICIENCY & EFFECTIVENESS
2
LIFELONG LEARNING
3
ASSESSMENT LIFECYCLE
4
GENERATIVE AI
The Impactful Eight
Challenges & Trends in Education
5
EVIDENCE-BASED DESIGN
6
ALL LEARNING MATTERS
7
EDUCATION & INDUSTRY COLLABORATION
8
THE FUTURE OF LEARNING

AI has been evolving, and inspiring movie producers, for close to a century



*Movies inspired by AI

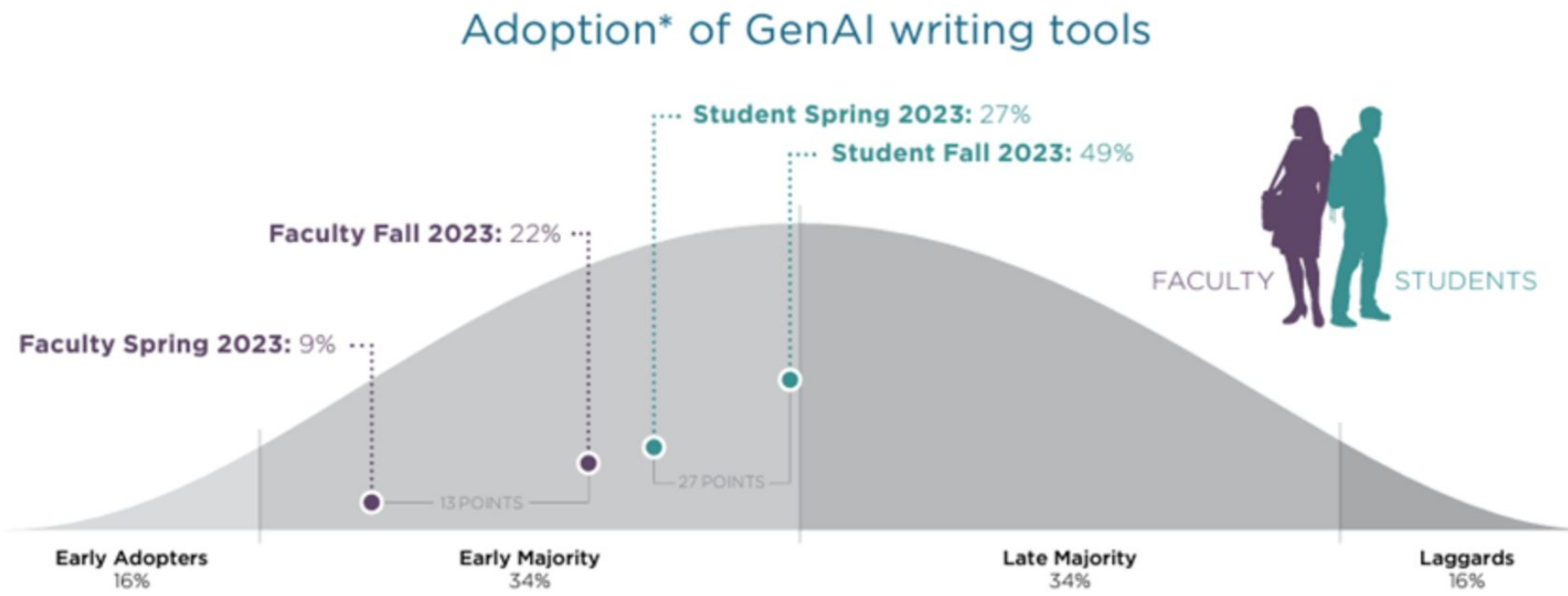
https://thelowdown.momentum.asia/the-emergence-of-large-language-models-llms/



November 30, 2022

“AI users are more likely to have a positive outlook on the potential of generative AI tools on student learning. Exposure to and experimentation with AI tools matters”

— Tyton Partners Oct 31, 2023



Challenges and Opportunities of Generative AI for Higher Education as Explained by ChatGPT

61% of faculty have used AI in teaching

Faculty usage of AI in teaching, % of respondents

Question: Have you used / are you using AI in your teaching?

39%
have not used AI

61%
have used AI

AI in teaching and learning

61% of faculty report having used AI in teaching. According to the Digital Education Council Global AI Student Survey 2024, 59% of students expected an increased use of AI in their education.

Faculty adopt a cautious approach to AI in teaching

Extent to which faculty use AI in teaching, % of respondents

Question: To what extent do you use AI in your teaching?

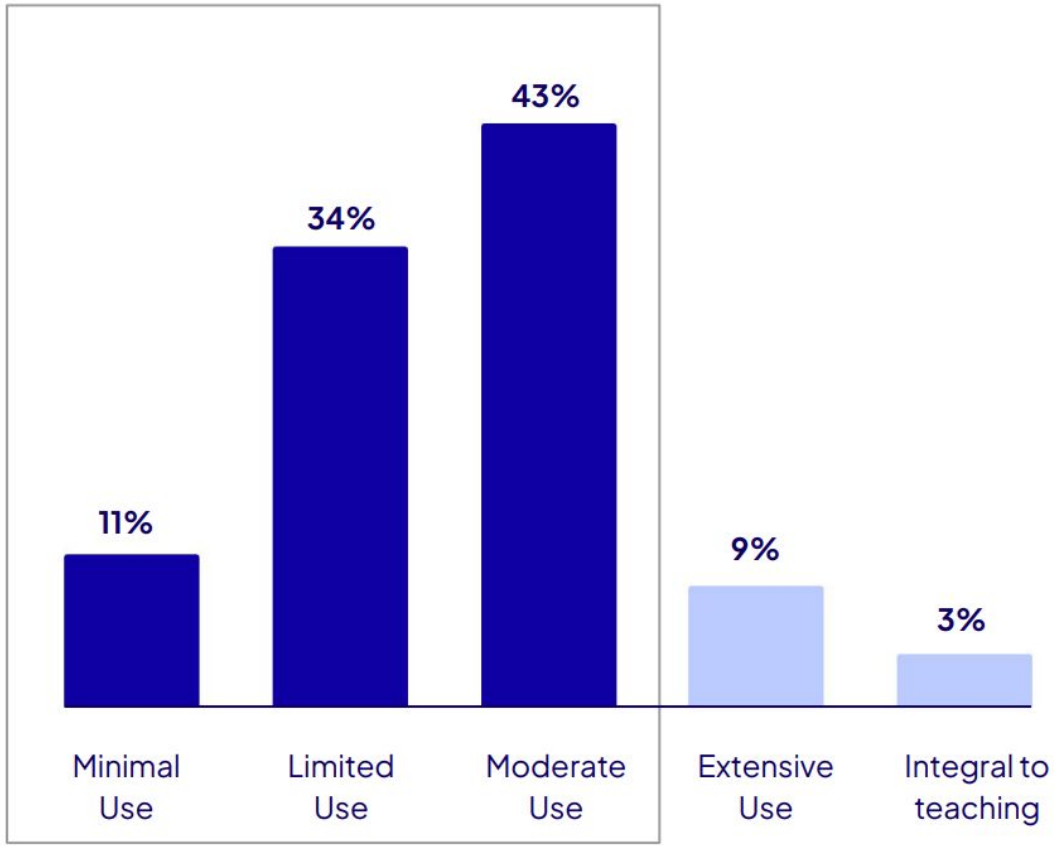
*Responses only include respondents who indicated 'Yes' to 'Have you used / are you using AI in your teaching?'

88%

of faculty who have used AI in teaching report minimal to moderate use

Integrating AI into teaching

While over 60% of faculty report having used AI in teaching, a significant majority of them indicated that they used AI sparingly. This could be attributed to a lack of clear guidelines and example use cases for AI in teaching provided by institutions, or a deliberate choice on faculty's part to limit usage of AI in teaching.



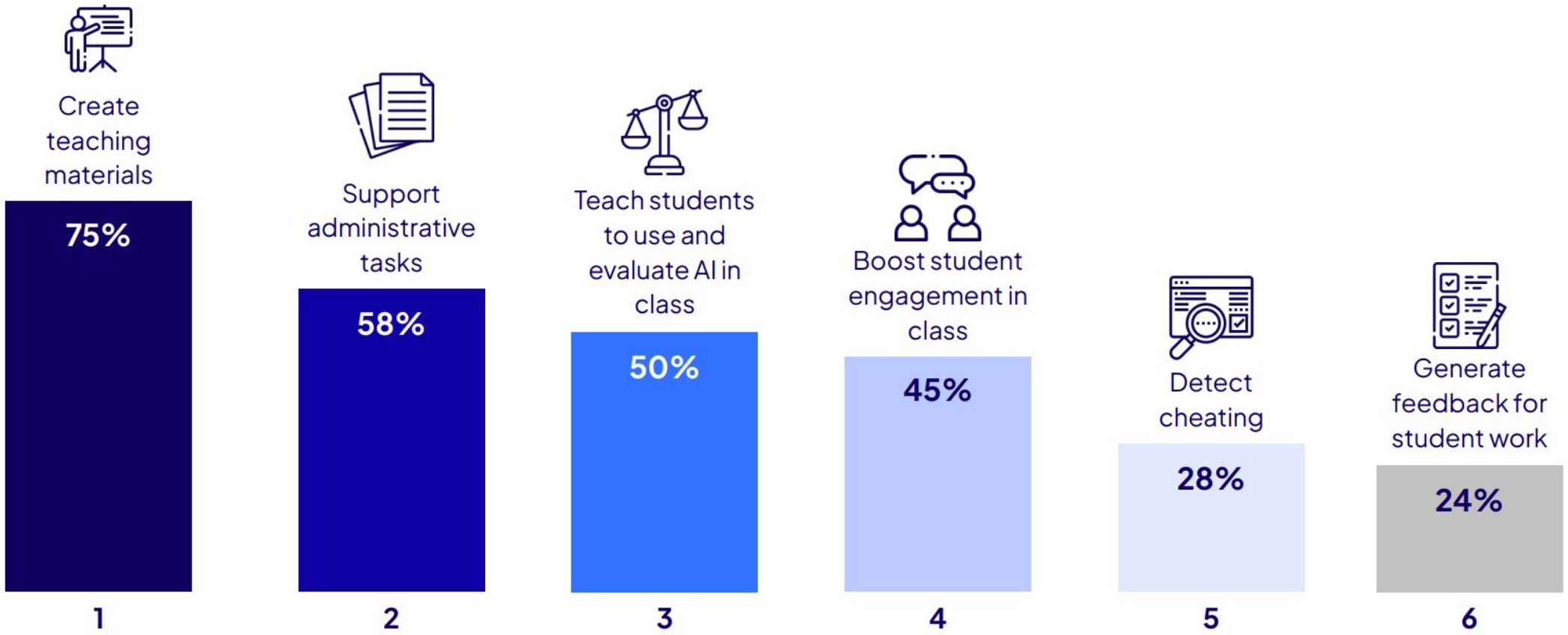
Digital Education Council Global AI Faculty Survey 2025

Top AI use case is creation of teaching materials

Top AI use cases in teaching, % of respondents

Question: What do you use AI for in your teaching? (choose all that apply)

*Responses only include respondents who indicated answered 'Yes' to 'Have you used / are you using AI in your teaching?'



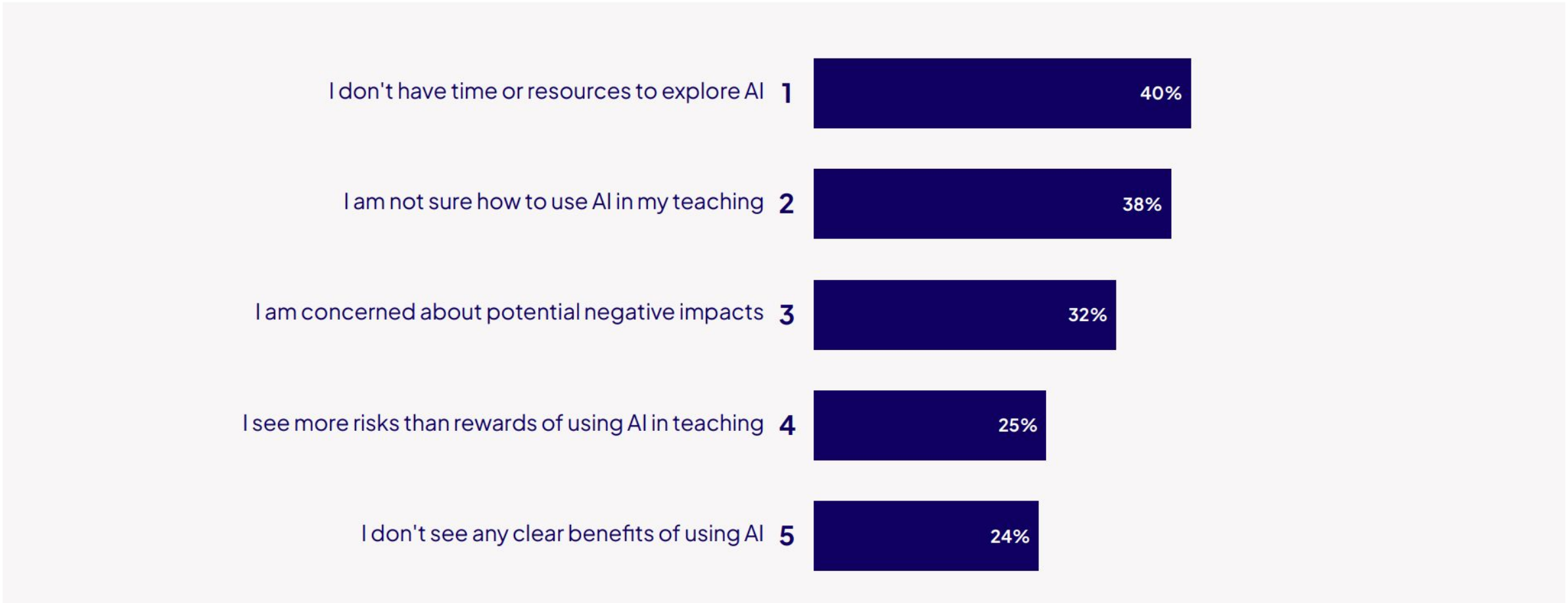
Digital Education Council Global AI Faculty Survey 2025

Time and resources listed as top barriers to use of AI

Top 5 reasons why faculty don't use AI in teaching, % of respondents

Question: What are the reasons you don't use AI in your teaching? (Choose all that apply)

*Responses only include respondents who indicated 'No' to 'Have you used / are you using AI in your teaching?'

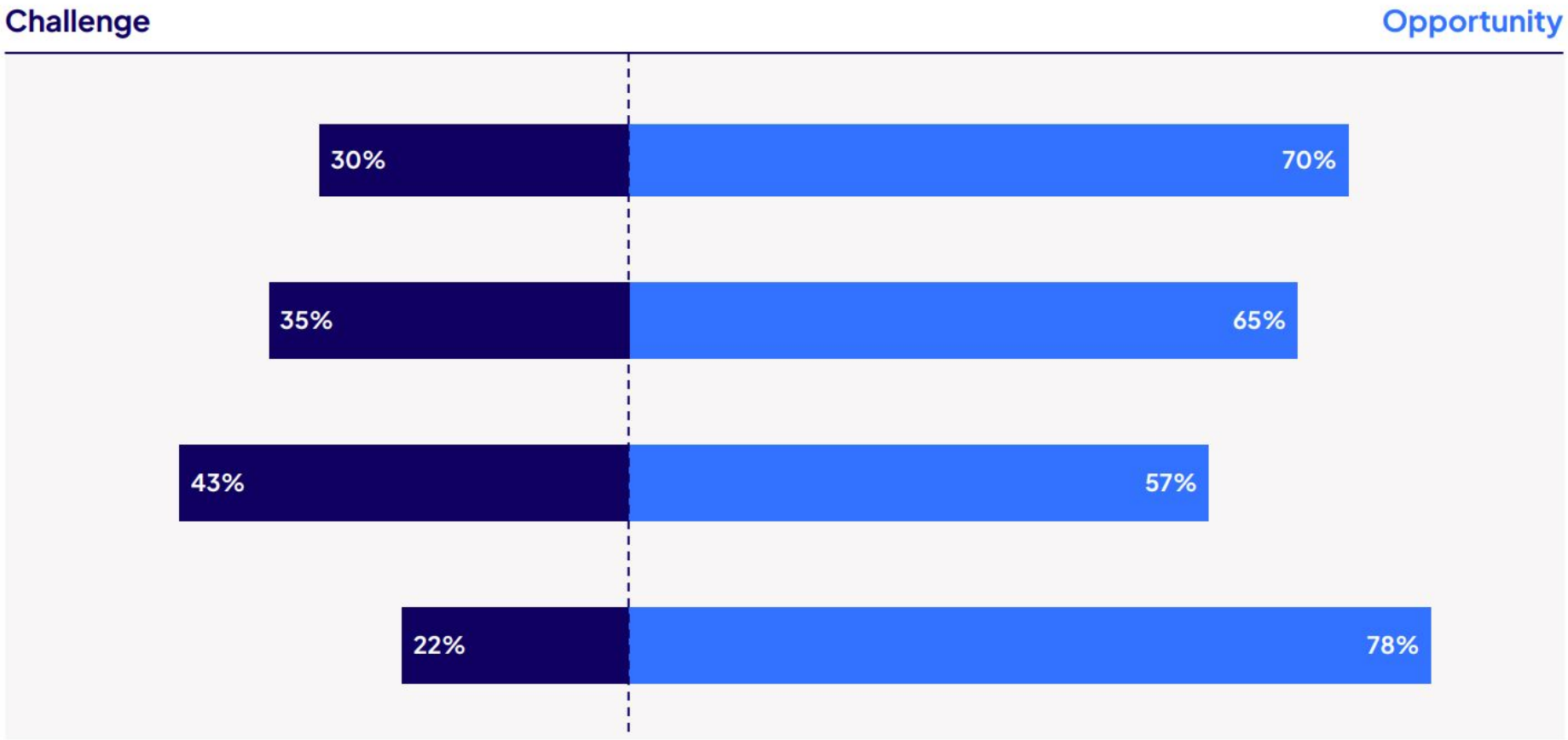


Digital Education Council Global AI Faculty Survey 2025

Challenge vs Opportunity: a regional view

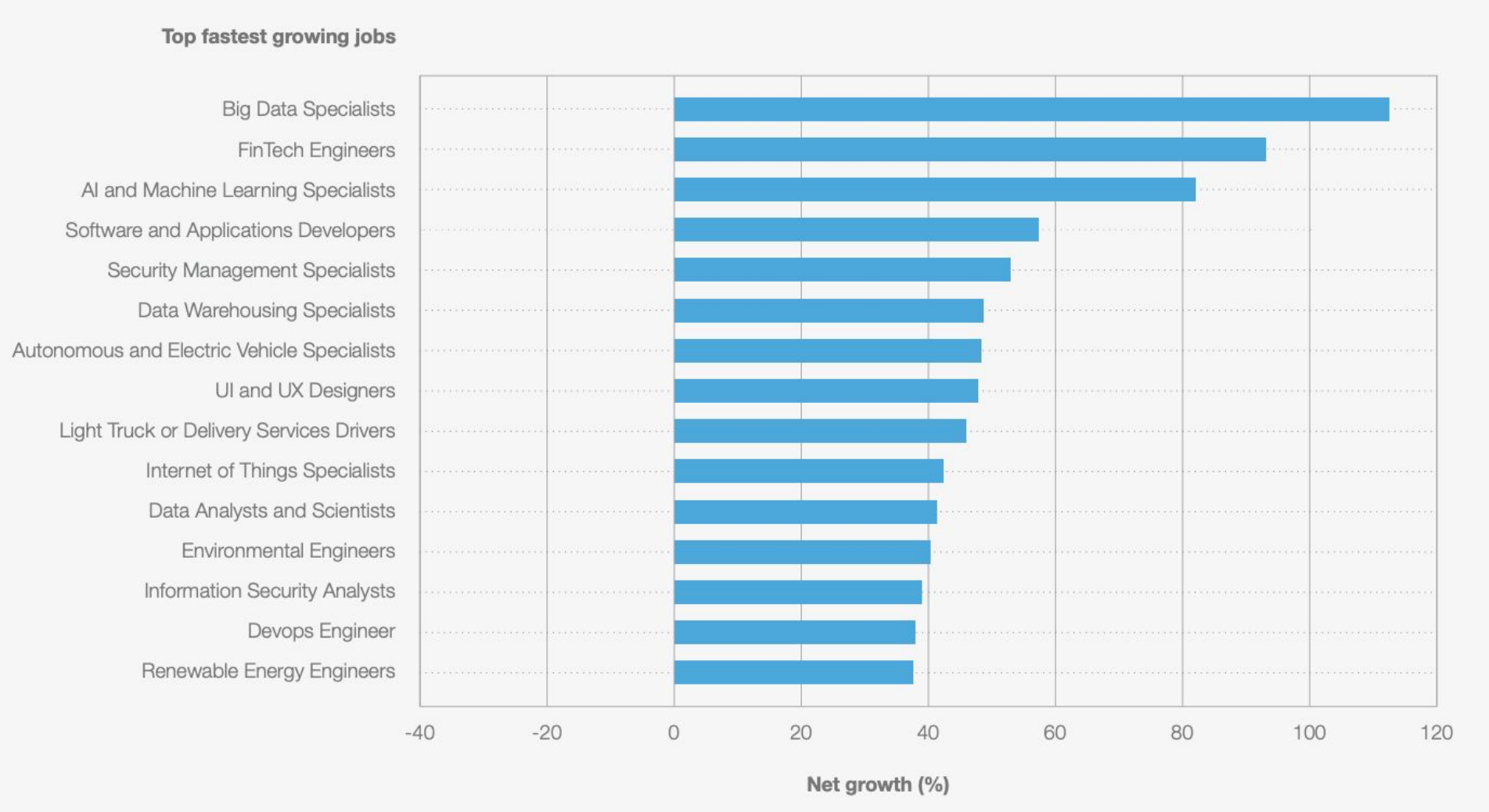
Faculty's view on AI's impact on education (by region), % of respondents

Question: What do you see AI's impact on education as?



Digital Education Council Global AI Faculty Survey 2025

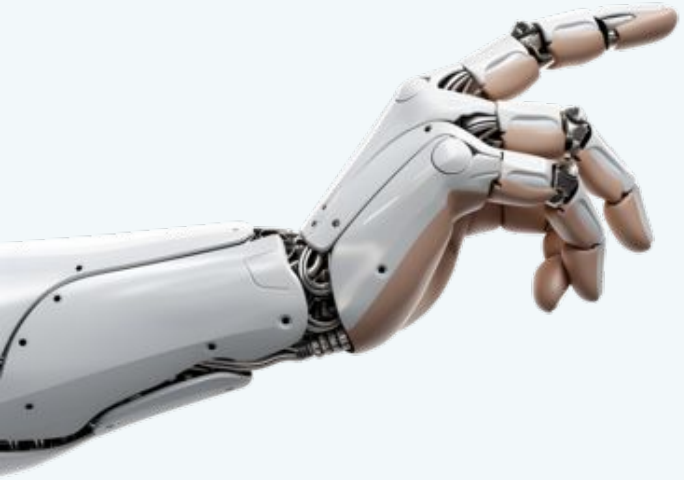
Fastest-growing jobs, 2025-2030



Future of Jobs Report 2025

What is AI Literacy?

“AI literacy is the knowledge and skills that allow people to understand, evaluate, and use generative artificial intelligence (AI) systems and tools safely and ethically.”



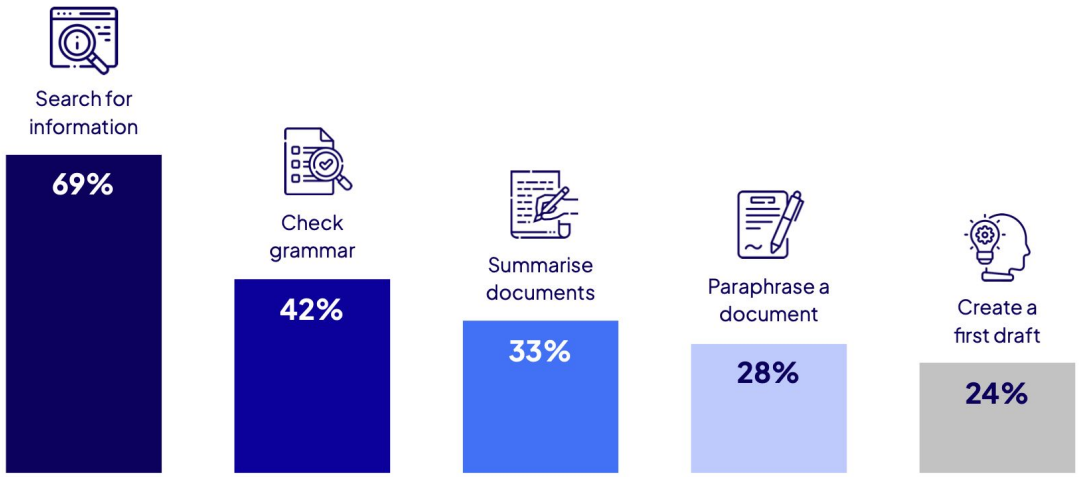
AI literacy skill set	Provided definition	Potential current uses
“Know & understand AI”	“Know the basic functions of AI and how to use AI applications.”	Integrating the history of AI tools; orienting students to the basic elements and limitations of Large Language Models (LLMs); identify relevant AI tools for student use in courses and when/how to use them
“Use & apply AI”	“Applying AI knowledge, concepts, and applications in different scenarios.”	Using AI as a tutor, as a reviewer of student-produced for a course, etc.
“Evaluate & create [with or in] AI”	“Higher-order thinking skills (e.g., evaluate, appraise, predict, design) with AI applications.”	Evaluate the bias and accuracy of AI-produced content; create with tools that use AI technology or create AI-based tools.
“AI ethics”	“Human-centered considerations (e.g., fairness, accountability, transparency, ethics, safety).”	Providing space to discuss course-specific and discipline-specific intersections of ethical AI use; debating these boundaries and applications, etc.

Conceptualizing AI literacy: An exploratory review

Moving Beyond the Focus on Cheating

Information searching tops the list for AI use cases among students, followed by grammar checking

Question: What do you usually use AI tools for (Select all that apply)?



[Digital Education Council Global AI Student Survey 2024]

Top Student Use Cases

Source: OpenAI user data from January, 2025

[1] According to our survey of 1,200 students aged 18-24, AI tools are used for starting papers/projects (49%), summarizing long texts (48%), brainstorming creative projects (45%), exploring topics (44%), revising writing (44%).
[2] ChatGPT US-based 18-24 year old user data for Jan. 2025.

[Open AI - Building an AI-Ready Workforce 2025]

Anthropic Education Report: How University Students Use Claude

	Problem Solving	Output Creation
Direct	Student seeks **direct solutions or explanations** Example: "Solve and explain differentiation problems in calculus"	Student seeks **complete materials** Example: "Create academic text summaries and condensed versions"
Collaborative	Student seeks **guided problem solving** Example: "Teach programming fundamentals with Python examples"	Student seeks **iterative refinement** Example: "Provide feedback and revision for student writing assignments"

Oregon State University Ecampus

Bloom's Taxonomy Revisited

Use this table as a reference for evaluating and considering changes to aligned course activities (or, where possible, learning outcomes) that emphasize distinctive human skills and/or integrate generative AI (GenAI) tools as a supplement to the learning process.

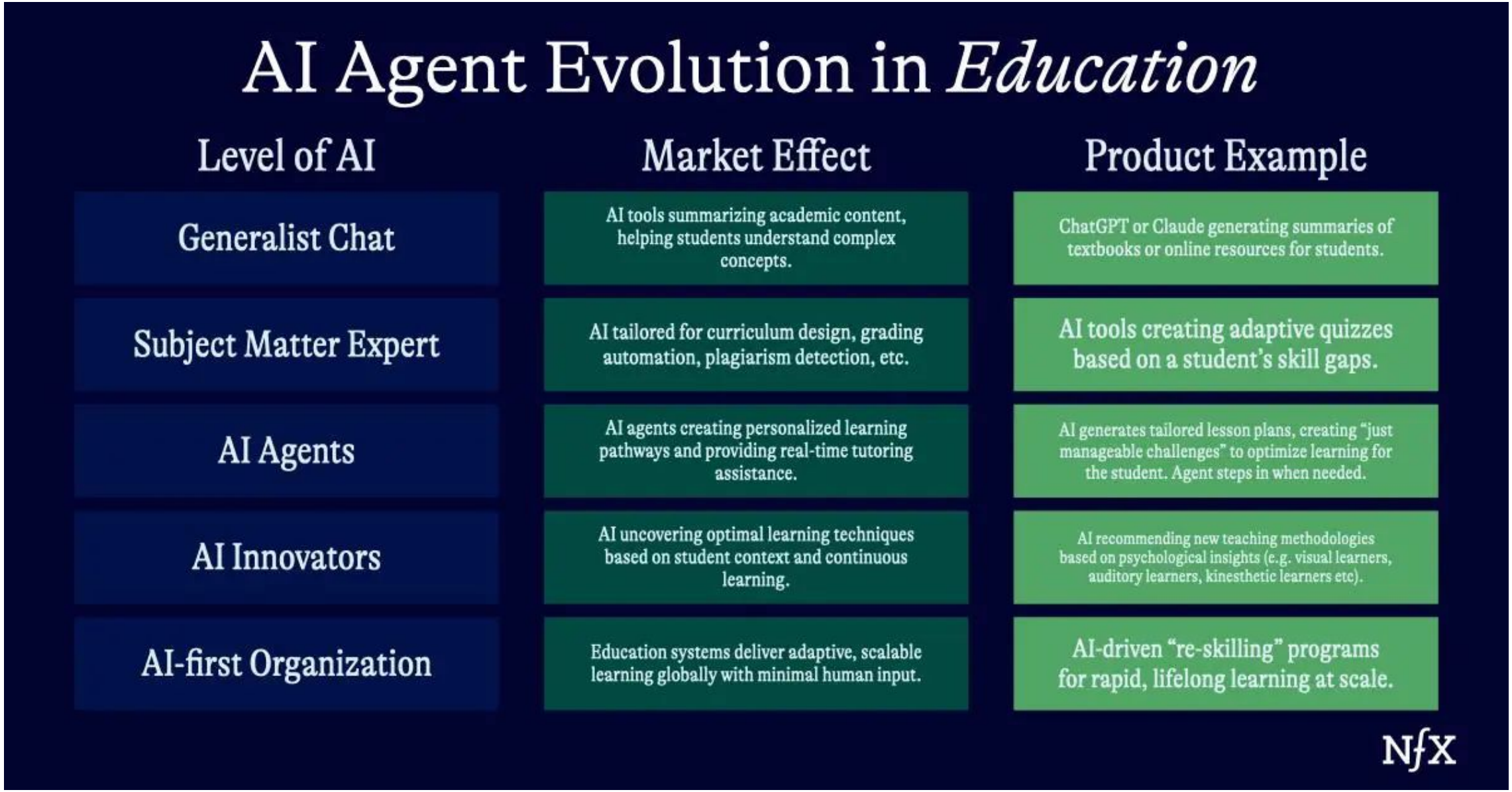
All course activities and assessments will benefit from ongoing review given the evolving capabilities of GenAI tools.

Version 2.0 (2024)

	Distinctive Human Skills	How GenAI Can Supplement Learning*
CREATE	Engage in both creative and cognitive processes that leverage human lived experiences, social-emotional interactions, intuition, reflection, and judgment to formulate original solutions	Support brainstorming processes; suggest a range of alternatives; enumerate potential drawbacks and advantages; describe successful real-world cases; create a tangible deliverable based on human inputs
EVALUATE	Engage in metacognitive reflection; holistically appraise ethical consequences of other courses of action; identify significance or situate within a full historical or disciplinary context	Identify pros and cons of various courses of action; develop and check against evaluation rubrics
ANALYZE	Critically think and reason within the cognitive and affective domains; justify analysis in depth and with clarity	Compare and contrast data, infer trends and themes in a narrowly-defined context; compute; predict; interpret and relate to real-world problems, decisions, and choices
APPLY	Operate, implement, conduct, execute, experiment, and test in the real world; apply human creativity and imagination to idea and solution development	Make use of a process, model, or method to solve a quantitative or qualitative inquiry; assist students in determining where they went wrong while solving a problem
UNDERSTAND	Contextualize answers within emotional, moral, or ethical considerations; select relevant information; explain significance	Accurately describe a concept in different words; recognize a related example; translate to another language
REMEMBER	Recall information in situations where technology is not readily accessible	Retrieve factual information; list possible answers; define a term; construct a basic chronology or timeline

*AI capabilities derived with reference to an analysis of the MAGE framework, based on ChatGPT 4 as of October 2023. See Zaphir, L., Lodge, J. M., Lisec, J., McGrath, D., & Khosravi, H. (2024). How critically can an AI think? A framework for evaluating the quality of thinking of generative artificial intelligence. arXiv preprint arXiv:2406.14769.

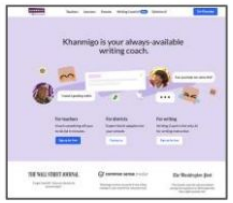
Source



https://www.nfx.com/post/ai-agent-revolution

Next AI Use Case Frontiers – 5/25

Highlights = Pages 246-247

Medical Discovery & Development	**Precision Manufacturing**	**Multi-Purpose Robotics**	**Autonomous Scientific Research**	**Supply Chain Optimization**
				
Cybersecurity & Threat Detection	**Personalized Education**	**Autonomous Finance**	**Environmental & Climate Monitoring**	**Energy Grid Management**
				

Note: List is not comprehensive. Source: Drug Development & Discovery = Insilico; Precision Manufacturing = Landing AI; Multi-Purpose Robotics = Figure AI; Autonomous Scientific Research = IBM's RoboRXN; Supply Chain Optimization = o9 Solutions; Cybersecurity & Threat Detection = Vectra AI; Personalized Education = Khanmigo; Autonomous Finance = Kasisto; Environmental & Climate Monitoring = ClimateAI; Energy Grid Management = Uplight; BOND analysis

Resources for Improving Instructor AI Literacy

[OpenAI - Teaching with AI]

[MIT - Generative AI for Teaching and Learning]

[University of Michigan - Prompt Literacy in Academics]

[Tecnológico de Monterrey - Guidelines for the Ethical Use of AI]

[University of Sydney - AI in Education Course]

Best Generative AI Tools for Getting Started

General

ChatGPT

(FREE)

COPILOT

(FREE)

Gemini

(FREE)

Images

DALL·E 3

(FREE)

Midjourney

($10/MONTH)

craiyon

(FREE)

Video

runway

($12/MONTH)

Canva

(FREE)

hypernatural

(FREE)

Other

NotebookLM

(FREE)

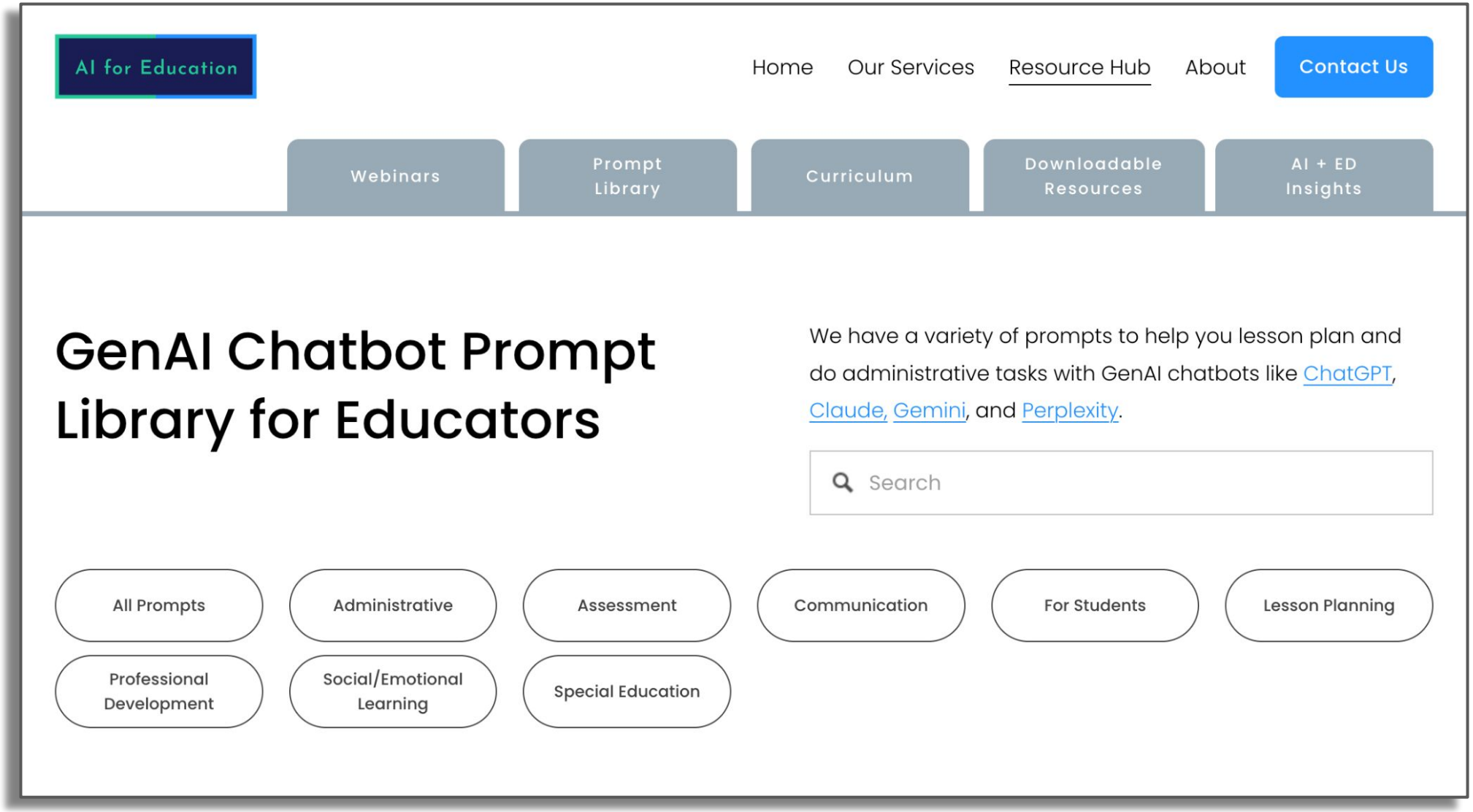
Napkin

(FREE)

Khanmigo

(FREE)

Prompt Engineering: Don’t Start from Scratch



https://www.aiforeducation.io/prompt-library

SCIENCE & TECH

Professor tailored AI tutor to physics course. Engagement doubled.

Preliminary findings inspire other large Harvard classes to test approach this fall

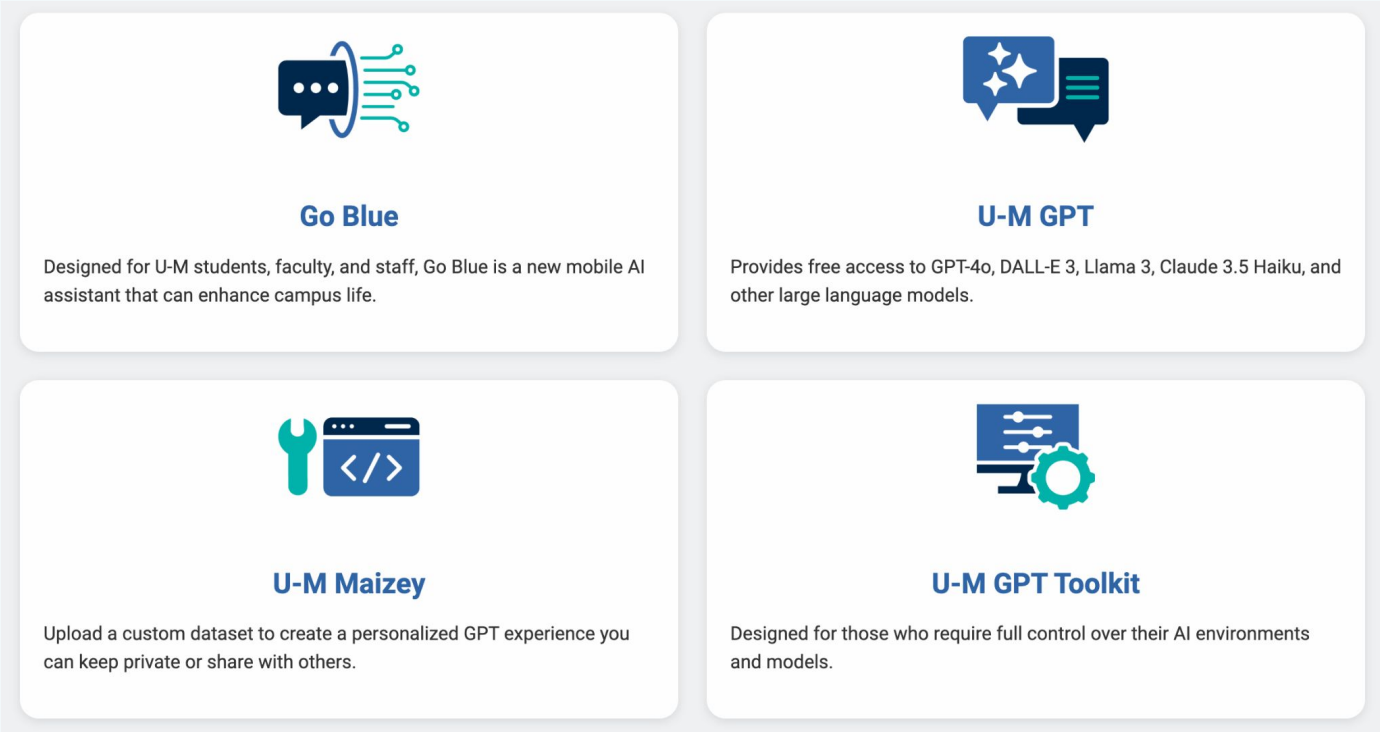
Anne J. Manning | Harvard Staff Writer

September 5, 2024 ▪ 6 min read

Source

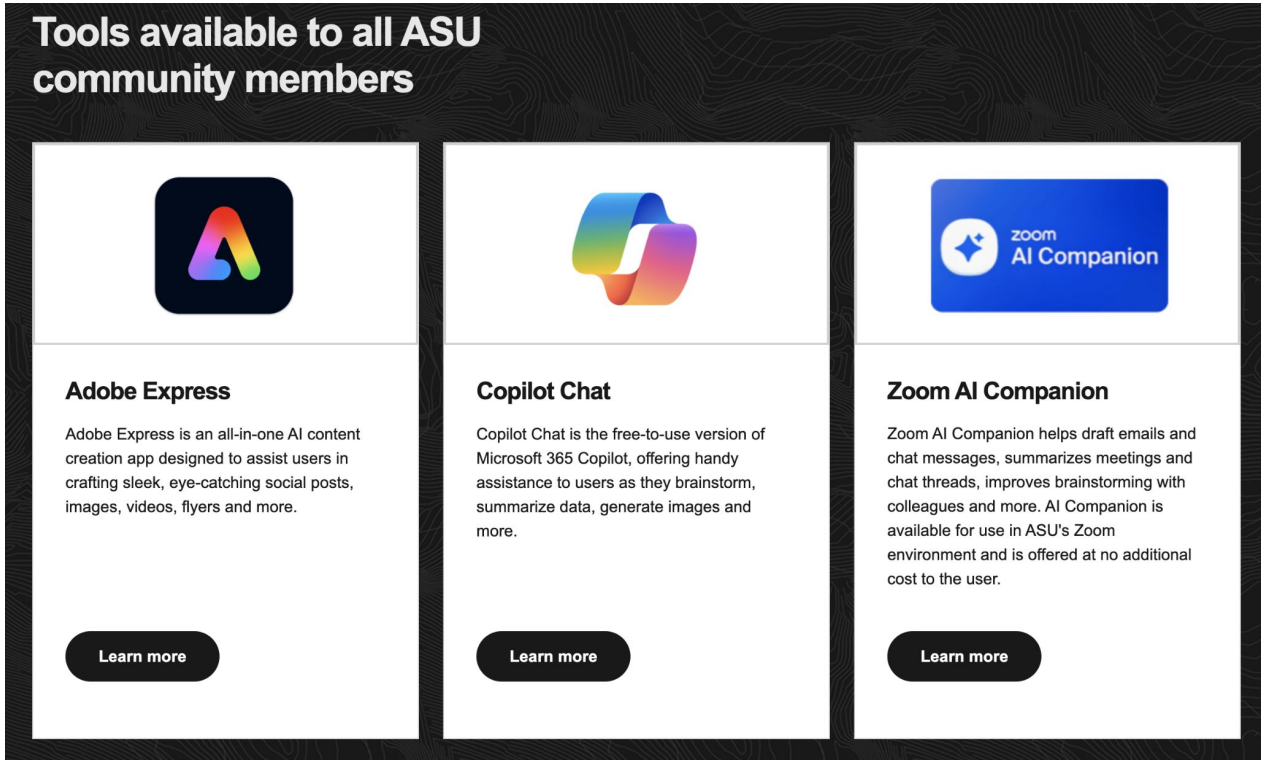
GENERATIVE ARTIFICIAL INTELLIGENCE
UNIVERSITY OF MICHIGAN

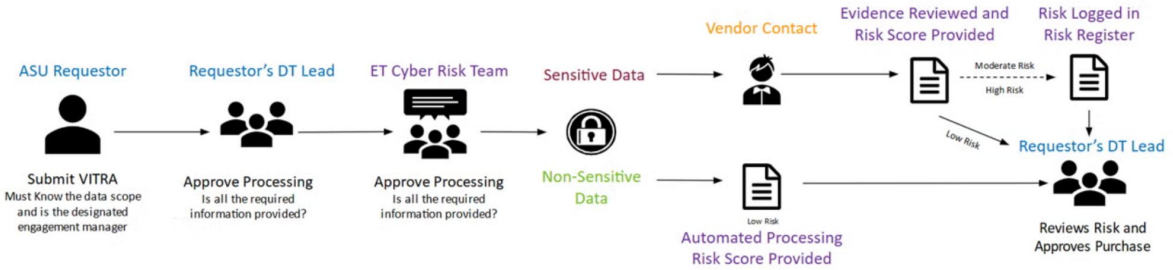
In August of 2023, the University of Michigan became the first university worldwide to launch an exclusive AI platform for its community.



Arizona State University

- Teaching and Learning with Generative AI
- AI Guiding Tenets
- Vendor IT Risk Assessment



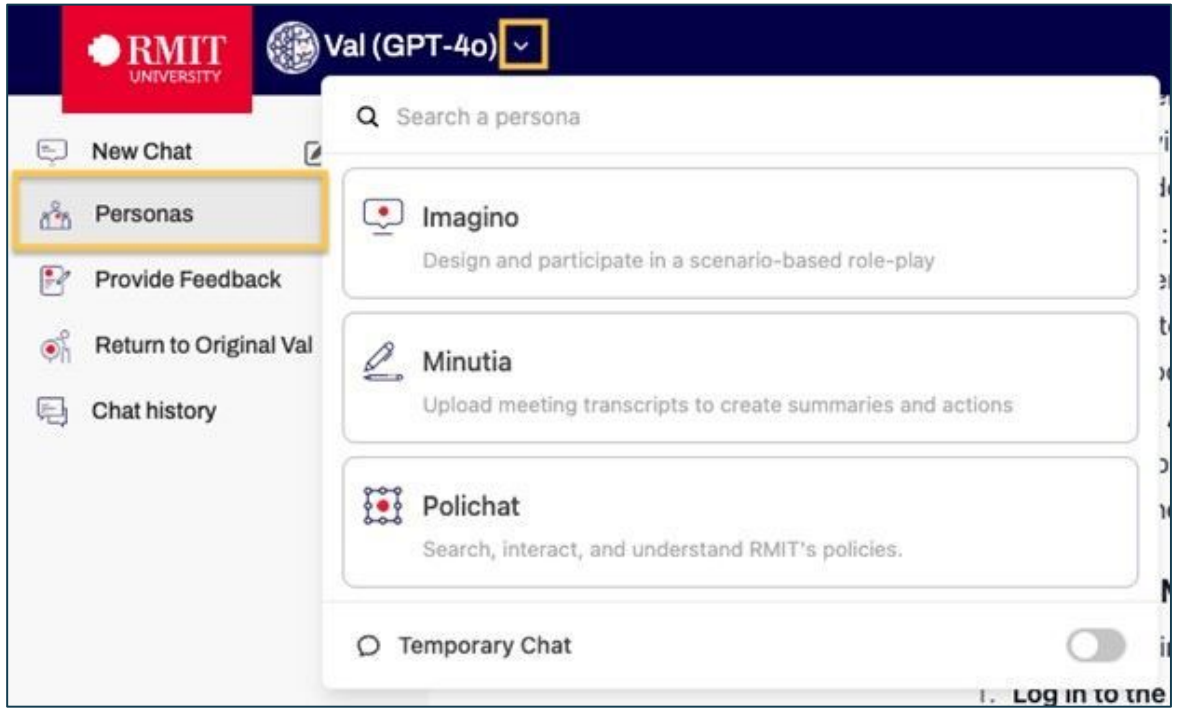


Val GenAI Chatbot – Your virtual learning assistant

Personas are tailored versions of **Val**, with different behaviour, knowledge and capabilities. Personas are useful for specific tasks, for example:

- **Imagino** is a role-play persona you can use to act out a scenario
- **Quizzical** creates quizzes on a topic
- **EssayMate** provides essay feedback
- **Polichat** can help you search and understand RMIT's policies
- **Prompto** can give you feedback on improving an AI prompt

New personas will be added to Val over time.

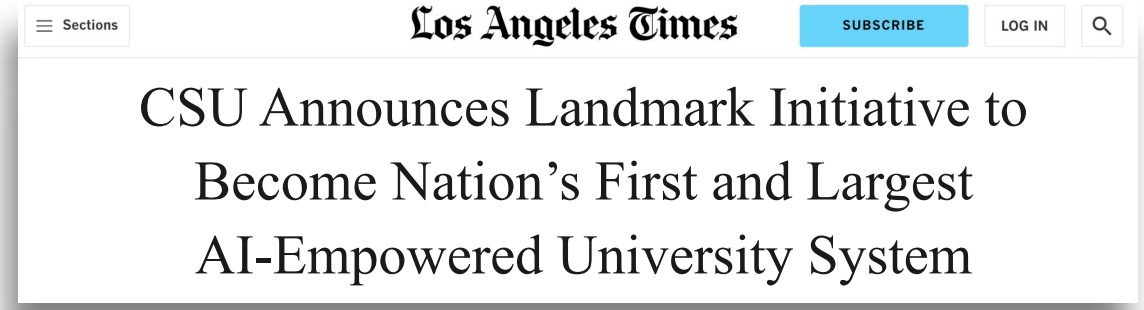


Tecnológico de Monterrey

Tec de Monterrey and Wizeline, a global technology services provider, joined forces in 2023 to launch the **first Generative Artificial Intelligence (AI) Laboratory (Gen AI Lab -G.AI.L.-)** in Mexico and Latin America, on Tec's campus.

- **4,700** faculty members have designed and actively participated in workshops
- **50** AI courses
- **44** university programs that fully integrate AI.
- **30** researchers**, 12** doctorate offers, and the publication of **48** scientific papers

CSU The California State University


Sections

Los Angeles Times

SUBSCRIBE LOG IN

CSU Announces Landmark Initiative to Become Nation's First and Largest AI-Empowered University System

AI tools and training will be available to all 460,000 students and 63,000 faculty and staff.

Google INSTRUCTURE OpenAI

aws IBM intel NVIDIA

LinkedIn Microsoft Adobe GOVERNOR GAVIN NEWSOM

HiPerGator

Nvidia donated HiPerGator, UF's AI supercomputer, the fastest of its kind in higher education serving more than 100 AI professors who have pursued groundbreaking new projects in AI.

NVIDIA

UF | UNIVERSITY of FLORIDA

Penn State Taps IBM to Develop AI Virtual Assistant to Foster Success for Student Body

IBM announced its collaboration with Penn State, consistently ranked among the top six percent of the world's universities, to build and deploy MyResource, a student concierge built with watsonx, IBM's portfolio of AI products.

PennState

IBM

Education and Industry Collaborating on AI Readiness

🧩 1. Design real-world AI projects

Create collaborative, hands-on projects where students use AI tools to solve genuine problems—bringing practical experience into learning environments.

🤝 2. Launch AI-integrated apprenticeships

Partner with industries to offer apprenticeship programs that blend AI-focused mentorship with classroom instruction, preparing students for AI-heavy roles.

🧪 3. Create AI learning labs

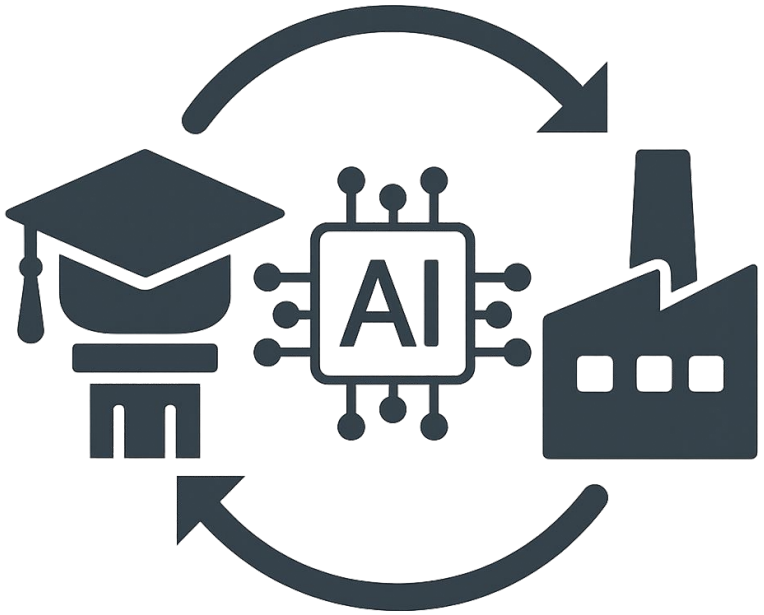
Establish dedicated, interdisciplinary AI learning labs—either on campus or virtually—where students can experiment, iterate, and explore AI in safe, resource-rich environments

📚 4. Embed AI across curricula

Infuse AI concepts into existing courses beyond computer science, ensuring students develop AI fluency regardless of their major or discipline.

🌐 5. Facilitate mentorship from industry

Provide structured connections with AI professionals who can guide students through real-world challenges, ethical considerations, and emerging AI career paths.



2025 Top 10 Strategic Technology Trends

AI imperatives and risks

- Agentic AI
- AI Governance Platforms
- Disinformation Security

New frontiers of computing

- Post-Quantum Cryptography
- Ambient Invisible Intelligence
- Energy-Efficient Computing
- Hybrid Computing

Human-machine synergy

- Spatial Computing
- Polyfunctional Robots
- Neurological Enhancement

Source: Gartner

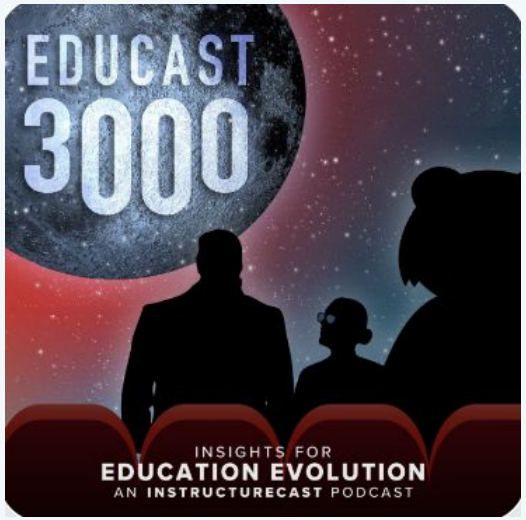
Gartner®

“Teachers must prepare students for the student’s future, not for the teacher’s past.”

Richard Hamming,
The Art of Doing Science and Engineering

INSTRUCTURE

Questions?



Check us out on Spotify

And ***live*** from EDUCAUSE, InstructureCon and more!

Hosted by:

Melissa Loble

Chief Academic Officer, Instructure

Ryan Lufkin

VP, Global Academic Strategy, Instructure


InstructureCon25
URBAN LEGENDS & UNSOLVED MYSTERIES
SPOKANE, WASHINGTON ••• JULY 22ND - 24TH, 2025
Connecting the Dots of Education

Thank You

THE FUTURE OF LEARNING

Common Causes of Cheating and Their Antidotes

Cause of Cheating	Antidote
The material being tested does not feel relevant or valuable to students	Design meaningful assessments that are relevant to student's lives
There is a lack of focus on academic integrity, trust, and relationship building	Establish academic integrity norms with student input
There is more focus on grades than learning	Demonstrate that the purpose of assessment is to guide future learning
There is high stress, pressure, or anxiety around assessments	Shift from high-stakes tests to low-stakes assessment for mastery of learning
Students have no agency in the assessment process	Let student choose how they will demonstrate their learning/understanding

*Inspired by work from Dr. Torrey Trust, an education researcher at the University of Massachusetts at Amherst

https://www.linkedin.com/pulse/real-way-stop-cheating-ai-world-richard-culatta-fogxc/