

AI and Academia: Leading the Charge in an Era of Educational (R)Evolution



The Council of
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2024 Institute for Chief Academic Officers and Their Teams // November 1–4, 2024
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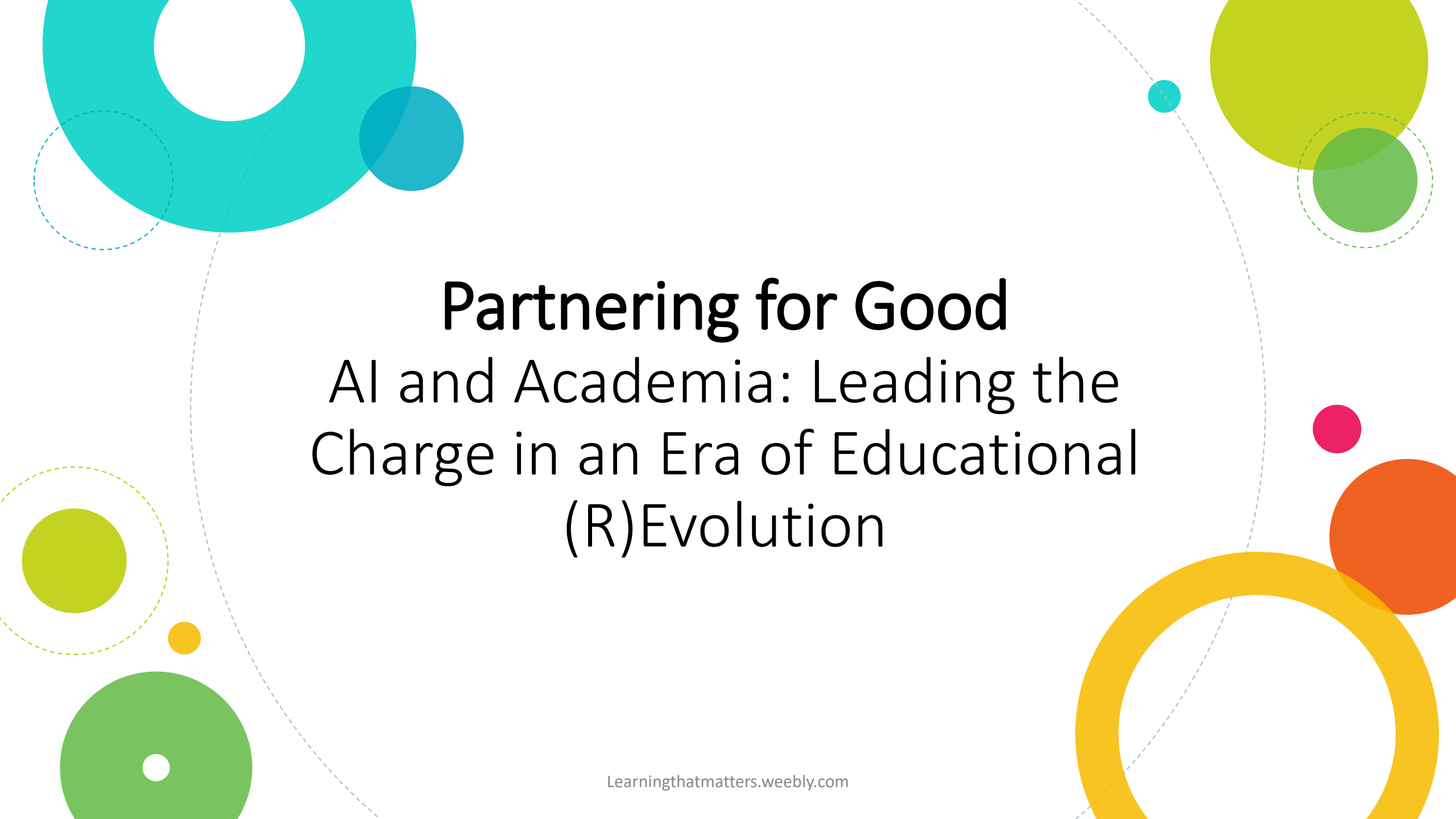
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Academic Leadership
NOW&NEXT

2024 Institute for Chief Academic Officers and Their Teams //



The Council of
Independent Colleges

The background features a white canvas with several overlapping circles in teal, lime green, orange, and pink. A thin, light blue dashed line curves across the slide, passing through the text area. The text is centered and reads:

Partnering for Good

AI and Academia: Leading the Charge in an Era of Educational (R)Evolution

How I came to study AI

- © December 2022
- © “Write a grant for innovative classroom furniture”
- © Horrified and giddy
- © AIs are promise and peril in one package





Agenda

- © The higher ed community's varying responses, the latest in detection technology, and models for AI-enhanced learning experiences
- © The goal: Convince you to ***lead the charge and guide the change***



Bees

In every instant, two gates.
One opens to fragrant paradise, one to hell.
Mostly we go through neither.

Mostly we nod to our neighbor,
lean down to pick up the paper,
go back into the house.

But the faint cries—ecstasy? horror?
Or did you think it the sound
of distant bees,
making only the thick honey of this good life?

- Jane Hirshfield




The higher ed community's varying responses

- © Mostly very little
- © Pockets of teaching innovation and pockets of disgust and fear
- © Provost appointed committees: surveys and policy



The higher ed community's varying responses

- ◎ Some exceptions (Elon University)
 - Student guide
 - Detailed Provost Statement
- ◎ Signable statement of principles from the 18th annual United Nations Internet Governance Forum in Kyoto, Japan
- ◎ Don't recreate the wheel
- ◎ Move quickly but cautiously to get your campus up to speed – start with knowledge, encourage grassroots action

A decorative graphic featuring several overlapping circles and rings in various colors including teal, orange, yellow, pink, green, and lime green. Some circles are solid, while others are dashed or have a ring shape. They are scattered across the slide, with a large teal ring in the top left and a large lime green circle in the bottom left.

The goal: Convince you to
***lead the charge and guide
the change***

The background features a large, faint dashed circle. Various colored circles and arcs are scattered around the text. A large yellow circle is at the top left, a large orange circle is at the top right, and a large blue circle is at the bottom left. Smaller circles in green, red, and purple are also present. A thick orange arc is on the right side, and a thick yellow arc is on the bottom left.

“

I don't need to spend time on AI because
It isn't all that



GPTs: The Possibilities

- © Ethan Mollick created a cool educational game for business students – needed to market
- © Gave himself 30 minutes to see how far he could get on creating all of that using AI
- © He'd put in prompts and AI would do all the work.



His tally:

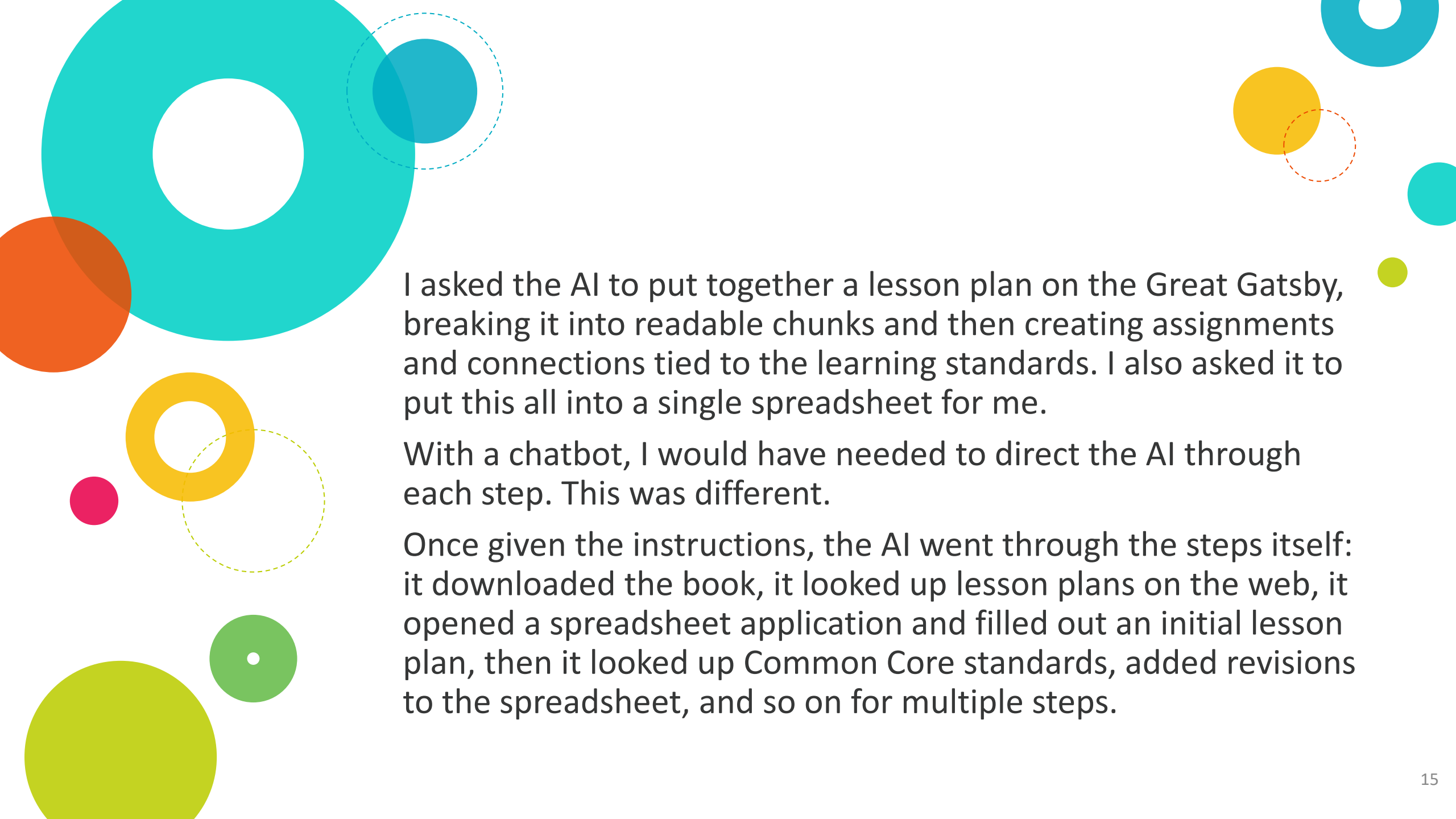
“I ‘created’ a market positioning document, an email campaign, a website, a logo, a hero image, a script and animated video, social campaigns for 5 platforms, and some other odds-and-ends besides.”

<https://www.oneusefulthing.org/p/superhuman-what-can-ai-do-in-30-minutes>



What's happening now

- ◎ Specialized GPTs trained on quality subsets (such as grants)
- ◎ AI linked to other apps, “agents” that can act
- ◎ AI incorporated into everything (Khan Academy, Duolingo, Canva, Google suite)
- ◎ Better quality including better “reasoning” skills (the AI takes time to “think” rather than working in a linear fashion)



I asked the AI to put together a lesson plan on the Great Gatsby, breaking it into readable chunks and then creating assignments and connections tied to the learning standards. I also asked it to put this all into a single spreadsheet for me.

With a chatbot, I would have needed to direct the AI through each step. This was different.

Once given the instructions, the AI went through the steps itself: it downloaded the book, it looked up lesson plans on the web, it opened a spreadsheet application and filled out an initial lesson plan, then it looked up Common Core standards, added revisions to the spreadsheet, and so on for multiple steps.

A decorative background featuring various colored circles (green, yellow, orange, pink, blue) and a large dashed light-blue circle. A thick teal ring is at the top. A blue circle with white quotation marks is positioned above the first text block.

“

I don't need to spend time on AI because
It isn't all that

Please get to know AI because

What it can do is mind blowing once you know which
GPT to use and how to prompt it well

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“

I don't need to spend time on AI because

Students aren't using it much, and when they do, we can tell



How well can they write?

- © First Year Harvard student
- © AI, “do my finals”
- © It got a GPA of 3.3
- © Her professors couldn’t tell

Macroeconomics, The American Presidency, Conflict Resolution, Latin American Politics, Freshman Writing

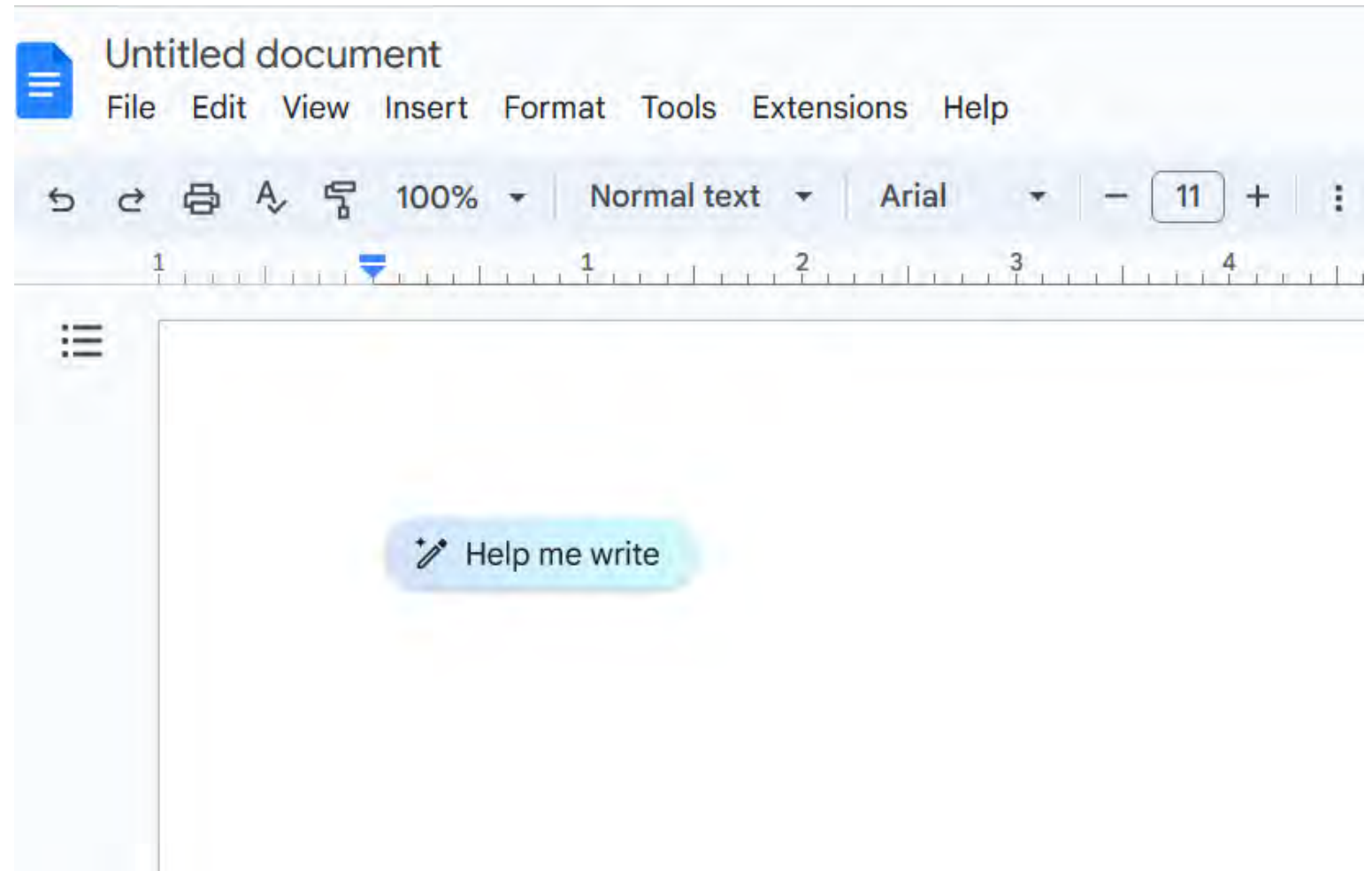


Outsmarting detectors

Quilbot
“Humanizers”
Adding mistakes

Ubiquitous Temptation

Describe what you are writing
Get a complete draft





And Now


Anthropic's "computer use"

- © Takes over your keyboard and types text in the browser
- © Proctoring software is now obsolete "Collegetools.io"
- © Works inside the LMS
- © Takes quizzes, completes assignments



How do I detect it?

- ◎ You mostly can't (occasionally you can)
- ◎ Put in your own writing and see
- ◎ Attempting to detect can be fraught. Be cautious.
- ◎ It should be a conversation based on multiple factors, not an accusation
 - ◎ Comparison to previous writing samples
 - ◎ Ability to explain key concepts

- 
- © Students submitted more than 22 million papers that “may have used generative AI” in 2023 to plagiarism detection company Turnitin (about 15%)
 - © That doesn’t include those “humanized” or those not using Turnitin
 - © And it was 2023



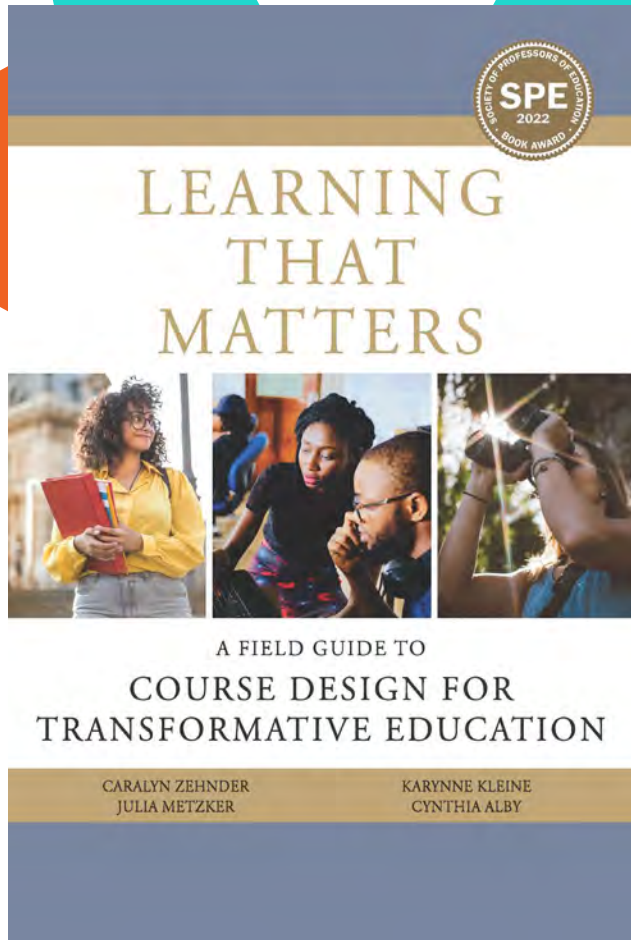
The Online Situation

- ◎ If it matters that the person who earns the credential is the one who demonstrated the learning
- ◎ Then most online courses are currently not viable and perhaps never were
- ◎ One solution: Students must come to campus for assessment



The On Campus Situation

- © “Do at home,” conventional assessments are off the table
- One solution
- © Redesign curriculum and assessments so that detection doesn’t ever need to be part of the equation
- © The flipped classroom model solves AI issues quite well most of the time.
- © We provide high quality resources for students to learn the foundational knowledge at home
- © The "in class" is all about supporting students in *applying* that learning in engaging activities they *value* while we are available to encourage and support.



Most Important

When students (humans)

- © can see how what they are learning has value,
- © feel they are capable of succeeding in what we have asked of them,
- © and aren't in a position of desperation

they will almost always put in the work
Ensure the learning *matters*

A decorative background featuring various colored circles (green, yellow, orange, blue, pink) and a dashed light blue line that forms a large, irregular shape. A large cyan circle is at the top, and a large yellow circle is on the right. A blue circle with white quotation marks is positioned above the first text block.

“

I don't need to spend time on AI because

Students aren't using it much, and when they do, I can tell

Please get to know AI because

Students ARE using it, getting savvier by the minute. It is becoming a ubiquitous temptation and harder to detect, while faculty are often unaware of how to handle it

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“

I don't need to spend time on AI because
It can wait



AI Effects on Job Market

- © Research on past technological advances suggests that jobs are lost in the short term but generally more jobs gained in the long run.
- © The new jobs usually require higher level skills and education

<https://freakonomics.com/podcast/new-technologies-always-scare-us-is-a-i-any-different/>



Specifically

- ◎ **Media jobs (advertising, content creation, technical writing, journalism)**
- ◎ **Tech jobs (Coders, computer programmers, software engineers, data analysts)**
- ◎ **Legal industry jobs (paralegals, legal assistants)**
- ◎ **Market research analysts**
- ◎ **Finance jobs (Financial analysts, personal financial advisors)**
- ◎ **Traders**
- ◎ **Graphic designers**
- ◎ **Accountants**
- ◎ **Customer service (Could be better!)**

Businesses' top 10 skill priorities for 2027



- | | |
|--|--|
| 1.  Analytical thinking | 6.  Curiosity and lifelong learning |
| 2.  Creative thinking | 7.  Technological literacy |
| 3.  AI and big data | 8.  Design and user experience |
| 4.  Leadership and social influence | 9.  Motivation and self-awareness |
| 5.  Resilience, flexibility and agility | 10.  Empathy and active listening |

Type of skill

 Cognitive skills  Self-efficacy  Technology skills  Working with others

Source

World Economic Forum, Future of Jobs Report 2023

Note

The skills which organizations will prioritize in workforce development initiatives from 2023 to 2027

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“

I don't need to spend time on AI because
It can wait

Please get to know AI because

Our graduates are going to need it to get jobs and be
successful in those jobs in nearly every field

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“

I don't need to spend time on AI because
I don't see how it would really help students; it can only harm them



A Protocol for Introducing Students to AI

- ◎ Start with the downsides
 - ◎ A terrific [list of articles](#) examining the downsides
 - ◎ Environmental concerns, biases, labor issues, privacy concerns, and more
- ◎ Have students use it and critique the output
- ◎ Allow students to *self-persuade*:
“Why I want to use AI responsibly”



What I know

- ◎ I had my students use it a lot at first
- ◎ They quickly realized there were lots of things they could do better
- ◎ AI lead quickly to higher order thinking, especially critique, analysis, and application of criteria. (“Is what it is producing *good?*”)
- ◎ Now AI is generating a lot of ideas, but my students are doing the heavy lifting, creating better lesson plans than ever before, but also understanding the underlying concepts better
- ◎ Encouraging use of AI seems to lead to better results than banning it



Sample Prompts for Students

- © Can you give me multiple resources to help me understand ____? The resources could include videos, websites, simulations, games, or infographics.
- © Can you break down the concept of ____ into manageable chunks?
- © I am planning a career in ____; can you help me see how ____ will help prepare me for that?
- © You are an expert _____. I will ask you questions and you answer as an expert mentor would.



What makes AI a great tutor/learning support

- ◎ Always patient and supportive
- ◎ Costs little or nothing
- ◎ Available 24/7
- ◎ Tailored to the learner
- ◎ “No embarrassment support”
- ◎ May lead to greater use of other supports
- ◎ BUT less reliable for more obscure topics and math may require a specialized app



Special Needs

- ◎ Provides exceptional transcription (act like you are dictating a prompt to the ChatGPT app – 10 min max)
- ◎ Simplify or explain difficult passages or concepts
- ◎ Tell them where they made mistakes/what they got wrong and why
- ◎ Translate into their dominant language (even a particular dialect)
- ◎ Describe images (for those with vision issues)
- ◎ Organize ideas

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“

I don't need to spend time on AI because
I don't see how it would really help students

Please get to know AI because

AI absolutely CAN be a game changer when it comes to
enhancing learning and retention

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“

**I don't need to spend time on AI because
I don't see how it would ethically help me**

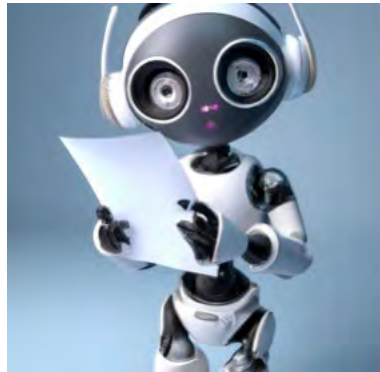
What if you had an assistant to *help* with TEACHING?

- Lesson plans
- Rubrics
- Feedback
- Assignment directions
- Ethical dilemmas
- Role-plays
- Case studies
- Songs (Suno)
- Quick videos (InVideo, Pictory)
- TiLTing
- Escape rooms
- More clear explanations
- Models
- Analogies
- Accurate translations of materials
- Making lessons/materials more equitable & inclusive



What if you had an assistant to *help* with SERVICE?

- Accreditation reports
- SWOT analysis
- Mission statements
- Form letters
- Translations
- Marketing
- Gathering needed information
- Event planning
- Travel planning/booking
- Emails



What if you had an assistant to help with RESEARCH and PRESENTATIONS?

- Data analysis
- Coding
- Image creation
- Research/lit review
 - Consensus, Litmaps, Scispace
- Better web searches
 - Perplexity
- Build a specialized GTP

Writing Support

- Give me 5 possible thesis statements/titles
- What counter arguments might there be?
- What key ideas have I missed?
- Critique for... Give feedback on...
- Make this more: scholarly, humorous, succinct, clear, expert
- Polish the grammar and punctuation
- Create an abstract

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“

I don't need to spend time on AI because

I don't see how it would ethically help administration, staff, teachers, or students

Please get to know AI because

AI absolutely CAN improve teaching and learning, the workplace, service, and research

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“

I don't need to spend time on AI because
It will be a while before AI impacts human lives



Yale's School for the Environment

- © Currently no standards or regulations requiring companies to report
- © “Data centers’ electricity consumption in 2026 is projected to reach 1,000 terawatts, roughly Japan’s total consumption.”
- © Shaolei Ren* estimates that one person in a session with GPT-3 (roughly 10 to 50 responses) drives the consumption of a half-liter of fresh water.

*associate professor of electrical and computer engineering at UC Riverside, working from calculations of annual use of water for cooling systems by Microsoft



Disinformation

- © Easier than ever for anyone to create realistic fake images, audio, and video
- © The creation of disinformation is increasingly affordable and accessible
- © Micro-targeting the more vulnerable
- © Undermining trust



Other concerns

- ◎ Bias
- ◎ Overreliance
- ◎ The end of work
- ◎ Automated and more sophisticated malware and other cyberattacks
- ◎ Threat to human life

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“

I don't need to spend time on AI because
It will be a while before AI impacts human lives

Please get to know AI because
It is already getting out of hand

The background features a large, faint dashed circle. Various solid-colored circles and arcs are scattered around the page. A blue circle containing white quotation marks is positioned above the text. Other colors include lime green, orange, yellow, pink, and teal.

“

I don't need to spend time on AI because
It would take more time than it is worth to get good at it



Essential Info: Which GPT?

The Original

- © ChatGPT (3.5) – outdated, biased, “hallucinates,” odd “tone” - don’t bother

4.0 Models – 10x more advanced

- © **Microsoft Copilot** – free, connected to the Internet, cites sources, privacy protected by your institution (including your students)
- © **OpenAI GPT-4o** – eloquent writing, high quality (\$20/mo) The free version let’s you use 4o for a little while but depending on traffic, can revert quickly to the terrible 3.5 version
- © **Claude AI** – the free version is good, paid is much better, designed to be ethical, best for working with large documents
- © **Google Gemini** – a good choice if the Google suite is your thing



What about Perplexity AI?

- ◎ Perplexity is really a search engine (specifically an *answer engine* while Google is a *link engine*)
- ◎ If you are looking for an answer to a question, it is quite good
- ◎ You might try using it to start just because it is easy to access



Getting Started (take a photo!)

- © Begin with “copy and paste” prompts
 - Learningthatmatters.weebly.com
 - Resources
 - First clickable link (copy and paste prompts)
 - Second clickable link (curated resources)
- © In an hour or two, you will be rocking it
- © PowerPoint link: <https://bit.ly/AlbyCIC>

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Important

- ◎ Think of the AI as a smart but untrustworthy assistant. Work with it.
- ◎ Follow up “tweaking prompts” are almost always required.
- ◎ Starting over is often a good idea
- ◎ Ask it to take steps one at a time: First do this. Now do this. Give me more detail on that.

(Photos, not clickable)

Basic Unit and Lesson Design

[Inquiry-based Unit Planning](#)

[Basic lesson writing](#)

[5E Model \(STEM\) Units and Lessons](#)

Role Play for Practice

[Basic role play prompt](#)

[Techniques for a teacher to practice asking students questions](#)

[Business majors practice negotiation](#)

[Practice pitching a startup](#) (or get feedback on any presentation)

[Mock Job Interviewing](#)

Making Teaching Easier - Cut and Paste Prompts

[Create clearer explanations that are a good fit for my audience](#)

[Provide good examples to help students better understand a concept](#)

[Look for patterns in results from "tickets out the door" etc.](#)

[Design a simple, diagnostic quiz](#)

[Decide what to focus on in a course or unit](#)

[Create interactive activities](#)

[Create a case study](#)

[Creating games for learning](#)

[Design Writing Prompts](#)

Help Me Work

[Accreditation reports, mission statements, program descriptions](#)

[Reference Letters](#)

[Help me get started on something I've been putting off](#)

[Make a plan/set goals](#)

[Translation for service and research](#)

[Transcription](#) (amazing!)

Research/find academic resources/lit reviews (use a specialized AI such as

[Consensus.app](#), [SciSpace](#), or [Litmaps](#))

(Photo, not
clickable)

I want to know more about why my students and I should be concerned about AI and what role we might play in guiding the change

- [ChatGPT and All That Follows](#) explores how to introduce students to AI and has excellent links to other articles
- [Elon's Guide for Students](#)
- [A Protocol for Discussing AI with Students](#)
- [AI needs you: How we can change AI's future and save our own](#) (book)

I want to know more about how AI will affect the job market

- [The Future of Jobs Report from the World Economic Forum](#)
- [Pew: Which jobs are likely to be replaced or require an increase in AI knowledge?](#)

I want to get a broad overview of AI more generally, not just in education

- [Greetings, People of Earth](#), a podcast episode from *This American Life*
- [The TED AI Podcast](#)
- [How do LLM's work?](#)
- [Generative AI Glossary](#), ALL the terms in one place (thanks STEM club!)

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I don't need to spend time on AI because
It would take more time than it is worth to get good at it

Please get to know AI because
You could be using it productively within a couple of hours



- © Questions?
- © Comments?

**Thank you for attending
this session!**



The Council of
Independent Colleges

 Angeles