USING AI TO GENERATE COURSE MATERIALS IN SUPPORT OF HIGH LEVERAGE PRACTICES

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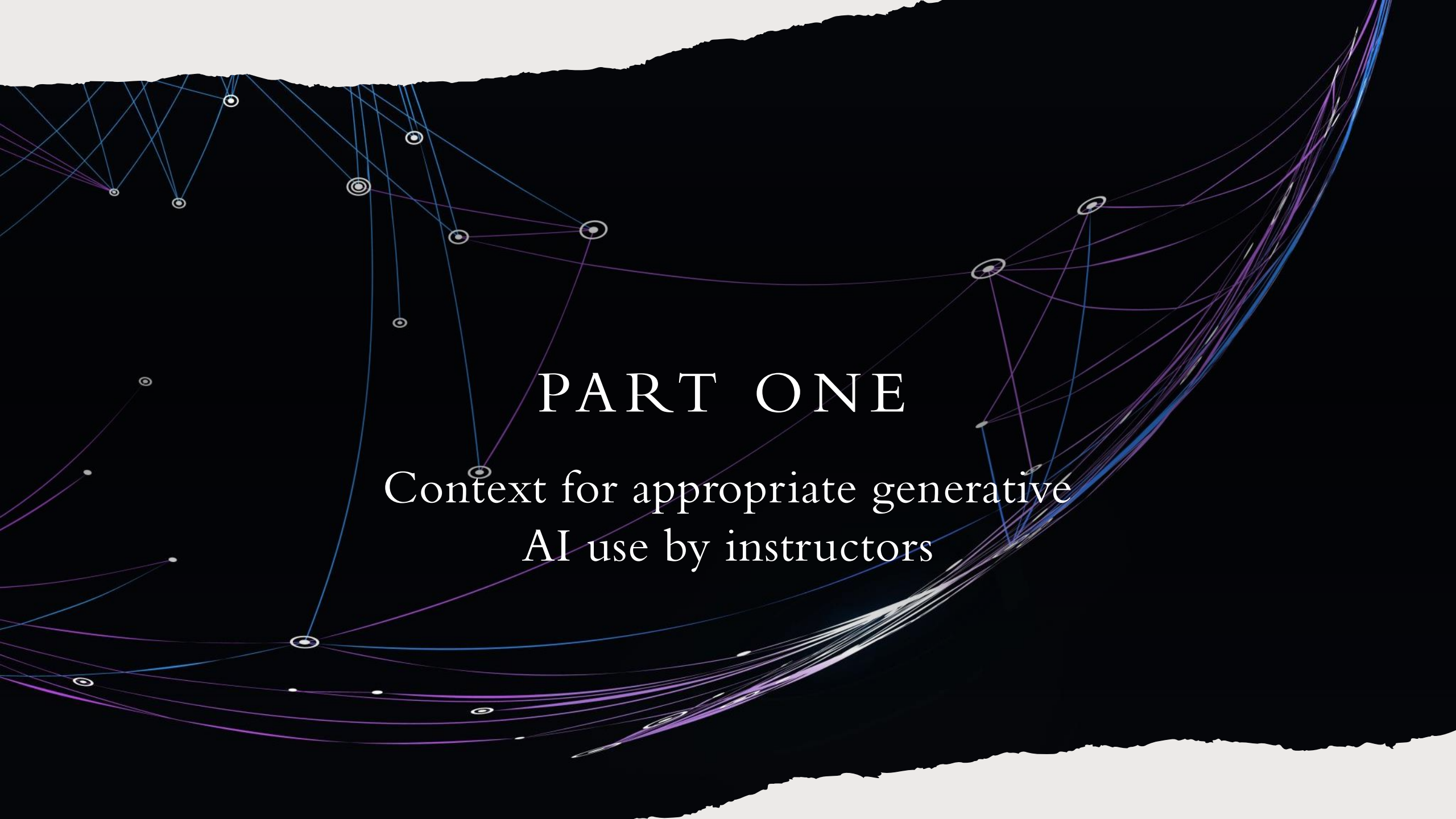
WORKSHOP GOALS

- consider bias and ethical concerns associated with generative AI
- learn best practices for using generative AI to support sound pedagogy
- gain specific strategies for using generative AI to create high-leverage classrooms



PART ONE

Context for appropriate generative AI use by instructors

EDUCATE YOURSELF ON
BIAS & ETHICS IN AI USE

Notable cases of bias in AI algorithms

- Amazon's sexist hiring problems
- COMPAS's (Correctional Offender Management Profiling for Alternative Sanctions) recidivism algorithm
- systemic bias in US Healthcare

Notable ethics cases with inappropriate AI use

- Citing case law
- Vanderbilt University usage
- "ChatGPT Replicates Gender Bias in Recommendation Letters"

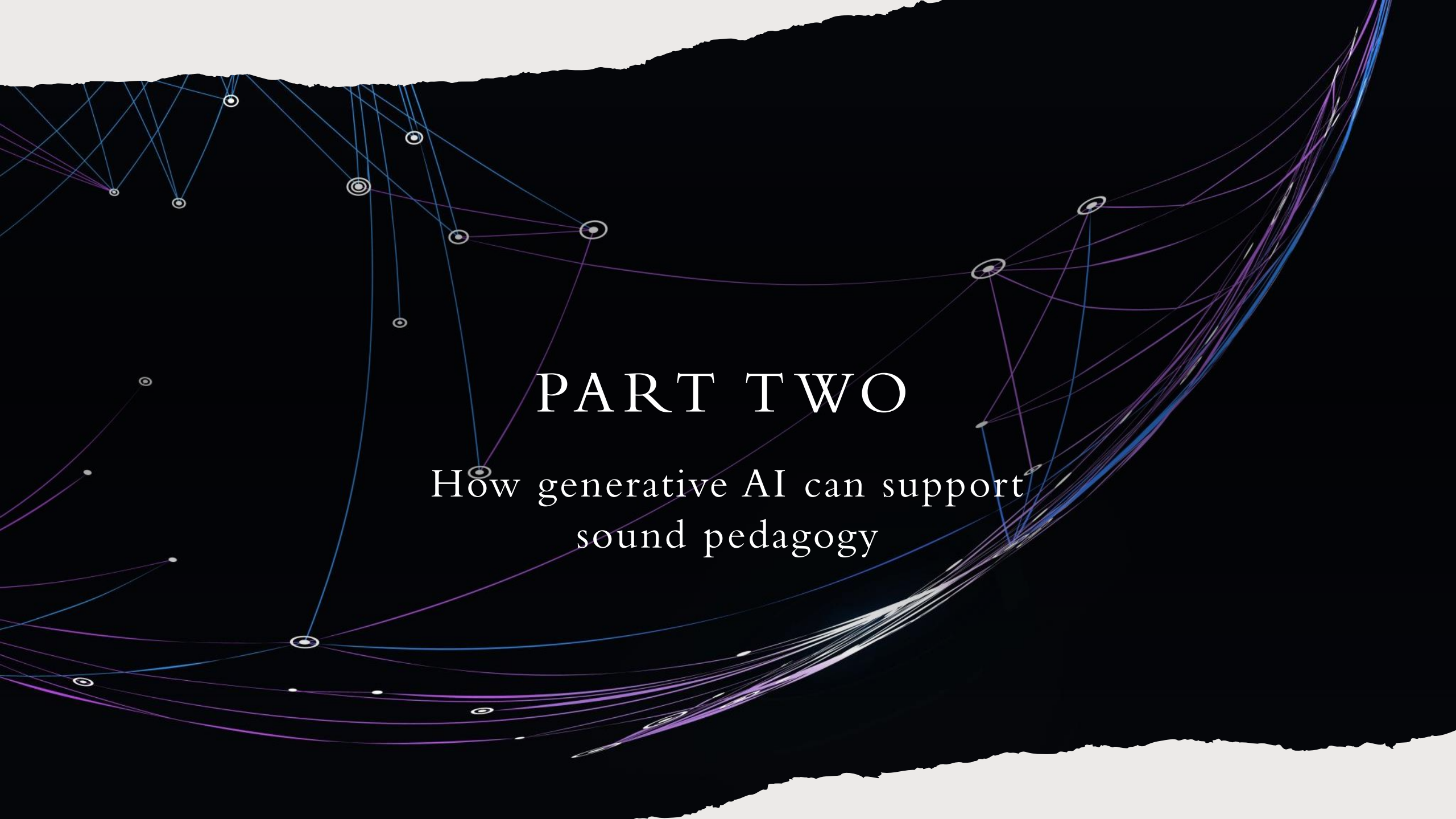
EDUCATE YOURSELF ON **HOW AI USE IS HANDLED IN YOUR DISCIPLINE**

- style guides
- professional organizations
- journals
- granting agencies
- your colleagues

BEST PRACTICES

generative AI use in teaching

- transparency
- attribution
- data privacy
- student learning & sound pedagogy first
- human intelligence for grading & feedback



PART TWO

How generative AI can support sound pedagogy

Why?

What student learning issue do you want to address?

How?

How can AI help generate course materials that address this?

Why?

- Students don't understand abstract concepts
- Student can't apply concepts across various contexts

How?

- Provide scaffolded explanations
- Generate multiple examples
- Offer analogies

I would like you to act as an example generator for students. When confronted with new and complex concepts, adding many and varied examples helps students better understand those concepts. I would like you to ask what concept I would like examples of, and what level of students I am teaching. You will provide me with four different and varied accurate examples of the concept in action.

Mollick, E. & Mollick, L. (2023, March 17) 'Using AI to Implement Effective Teaching Strategies in Classrooms: Five Strategies, Including Prompts.'

CONCEPT: METACOGNITION

FACULTY

Metacognition is a crucial aspect of learning that involves understanding and controlling one's own cognitive processes. It's essentially thinking about your own thinking. Metacognitive strategies allow students to monitor, plan, and regulate their learning effectively. Metacognition can help us support our students in becoming more independent and effective learners. Imagine a student studying for an exam. They use metacognitive strategies when they reflect on their own learning process. For example, they might ask themselves: "Do I understand this concept?" "What study methods work best for me?" "How can I organize my study time effectively?" By consciously thinking about how they learn, students can identify strengths and weaknesses in their study habits and adjust their approach accordingly.

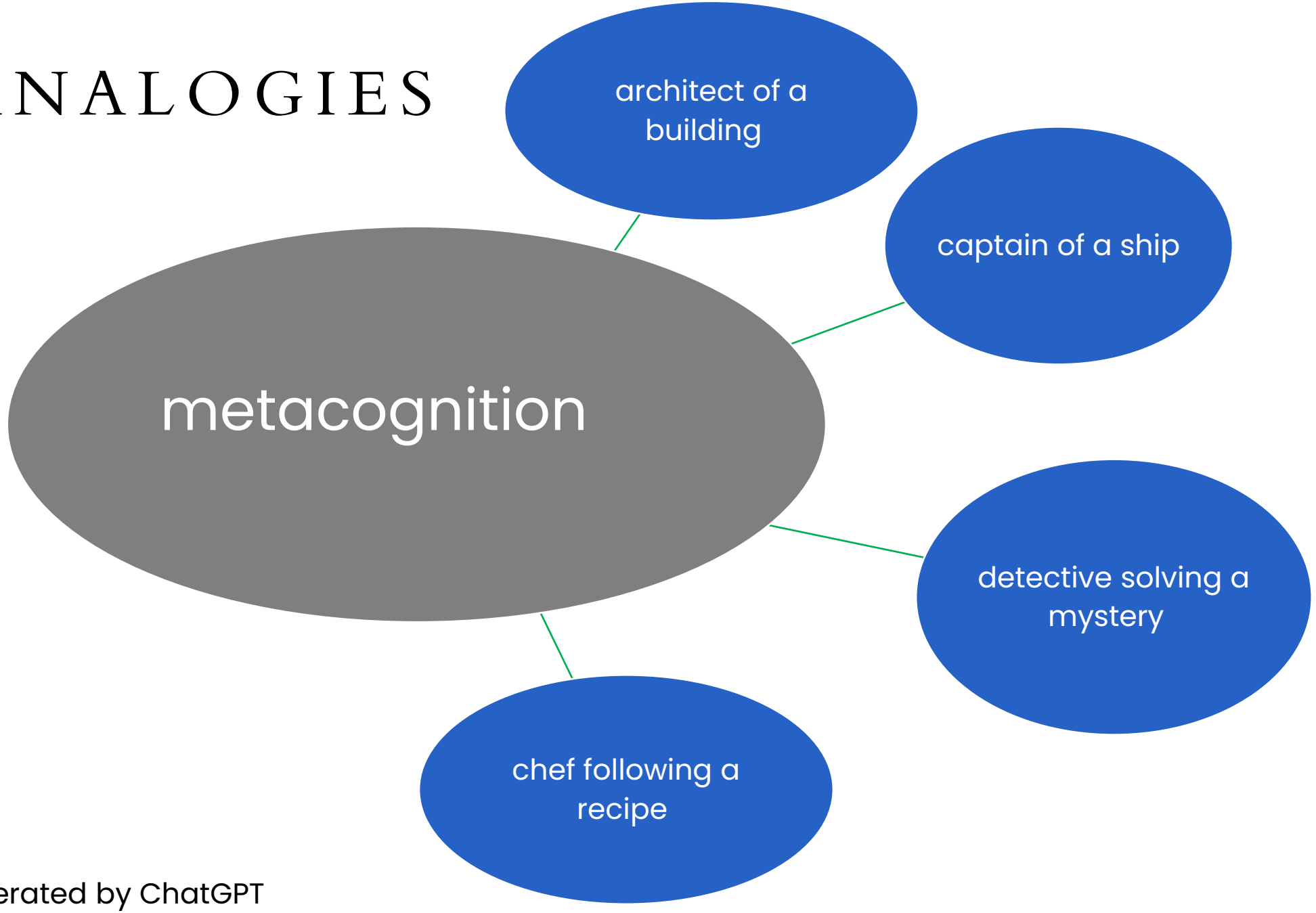
STUDENT

Metacognition is like being the boss of your own brain. It's all about understanding how you think and learn so you can make the most out of your schoolwork. When you use metacognition, you're not just learning the material – you're also thinking about how you're learning it. It's like having a superpower that helps you study smarter, not just harder.

Imagine you're studying for a big test. Instead of just reading through your notes and hoping for the best, you use metacognition to plan your study session. You might ask yourself "What do I already know about this topic?" and "What parts do I need to focus on the most?" Then, as you're studying, you keep checking in with yourself to see if your strategies are working. If something isn't clicking, you can try a different approach until you find what works best for you.

Text generated by ChatGPT

ANALOGIES



Text generated by ChatGPT

Why?

- Students struggle with critical thinking, problem-solving, ethical decision making
- Students need opportunities to exercise professional skills
- Students struggle to apply theoretical concepts to real-world situations

How?

- Outline a case study story & structure
- Build a "persona" or interview questions
- Find gaps in a scenario draft

CREATING CASE STUDIES

- "Case studies require human interaction"
- outlining a case study story and structure
- finding gaps in a draft
- help build a "persona" or interview questions

- prompt examples from Jasper
- Blog on using AI to assist with case study creation

Why

- Students aren’t prepared or aren't engaging with course materials
- Students don’t do well with knowledge retention & recall
- Students are confused or have misconceptions
- Students inaccurately assess their own learning
- Students struggle with high-stakes test anxiety

How

- Generate multiple quiz questions
- Tailor questions to various outcomes
- Analyze data from Classroom Assessment Techniques (CATs)

You are a quiz creator of highly diagnostic quizzes. You will make good low-stakes tests and diagnostics. You will then ask me two questions. First, what, specifically, should the quiz test. Second, for which audience is the quiz. Once you have my answers you will construct several multiple-choice questions to quiz the audience on that topic. The questions should be highly relevant and go beyond just facts. Multiple choice questions should include plausible, competitive alternate responses and should not include an "all of the above option." At the end of the quiz, you will provide an answer key and explain the right answer.

Mollick, E. & Mollick, L. (2023, March 17) 'Using AI to Implement Effective Teaching Strategies in Classrooms: Five Strategies, Including Prompts.'

Why?

- Students don't read deeply
- Students aren't exercising agency or authority
- Students don't apply assessment criteria
- Students don't understand AI's limitations

How?

- Creating texts for students to critique

PART THREE

Important Considerations and Resources

CONSIDERATIONS FOR EQUITY & INCLUSION

- Universal Design for Learning
  - alt text, headers, document divisions
- greater transparency in assignments (TILT template)
- diversity of examples
- clear rubric language
- summaries or alternative explanations

STUDENT GENERATIVE AI USE

- tutor (personalized instruction)
- descriptive writing response
- debate partner
- conversation with an historic figure
- brainstorming ideas

Mollick, E. (2023, September 25). *Student Use Cases for AI*. Harvard Business Publishing.

Mollick, E. R., & Mollick, L. (2023). *Assigning AI: Seven Approaches for Students, with Prompts* (SSRN Scholarly Paper 4475995).

INCLUSIVE LANGUAGE

“If you as a student are struggling and feeling too much pressure in this course, please don't resort to AI as a shortcut to completing assignments. Many Stanford students feel stressed and pressured. It is completely natural, as this is a challenging course, and the university can be a high-pressure environment. But there are a lot of support resources available to you, and I believe that you can succeed here. Please contact me anytime and let's talk about it. I am open to extending due dates or adjusting the assignments to fit your situation. I will work with you to support your success in this course!"

"We recognize that you may have concerns around privacy and security or have ethical or other reasons why you do not want to use AI tools in this class. This is completely understandable, and we respect your choices. I am here to help you succeed in this course. Please email, visit office hours, or speak to me at any time so we can help you. I can accommodate or adapt course assignments for most students' situations. In the instances where I cannot, I can connect you to other campus resources that can help you."

“Creating your course policy on AI,” Stanford Teaching Commons

ASSIGNMENT RESOURCES

- UND's AI assignment repository
- Harvard's AI primer & assignment repository
- Writing Across the Curriculum (WAC) Clearinghouse: TextGenEd AI Literacy examples

ADDITIONAL RESOURCES

tutorials (available to embed in courses)

- Artificial Intelligence & Information Literacy (University of Maryland)
- Practical AI for Instructors and Students (Wharton Interactive Crash Course)

THANK YOU