

AUS | الجامعة الأميركية في الشارقة
American University of Sharjah

Assess Smarter: Rethinking Teaching, Testing and Thinking in the Age of AI

Dr. Norita Ahmad

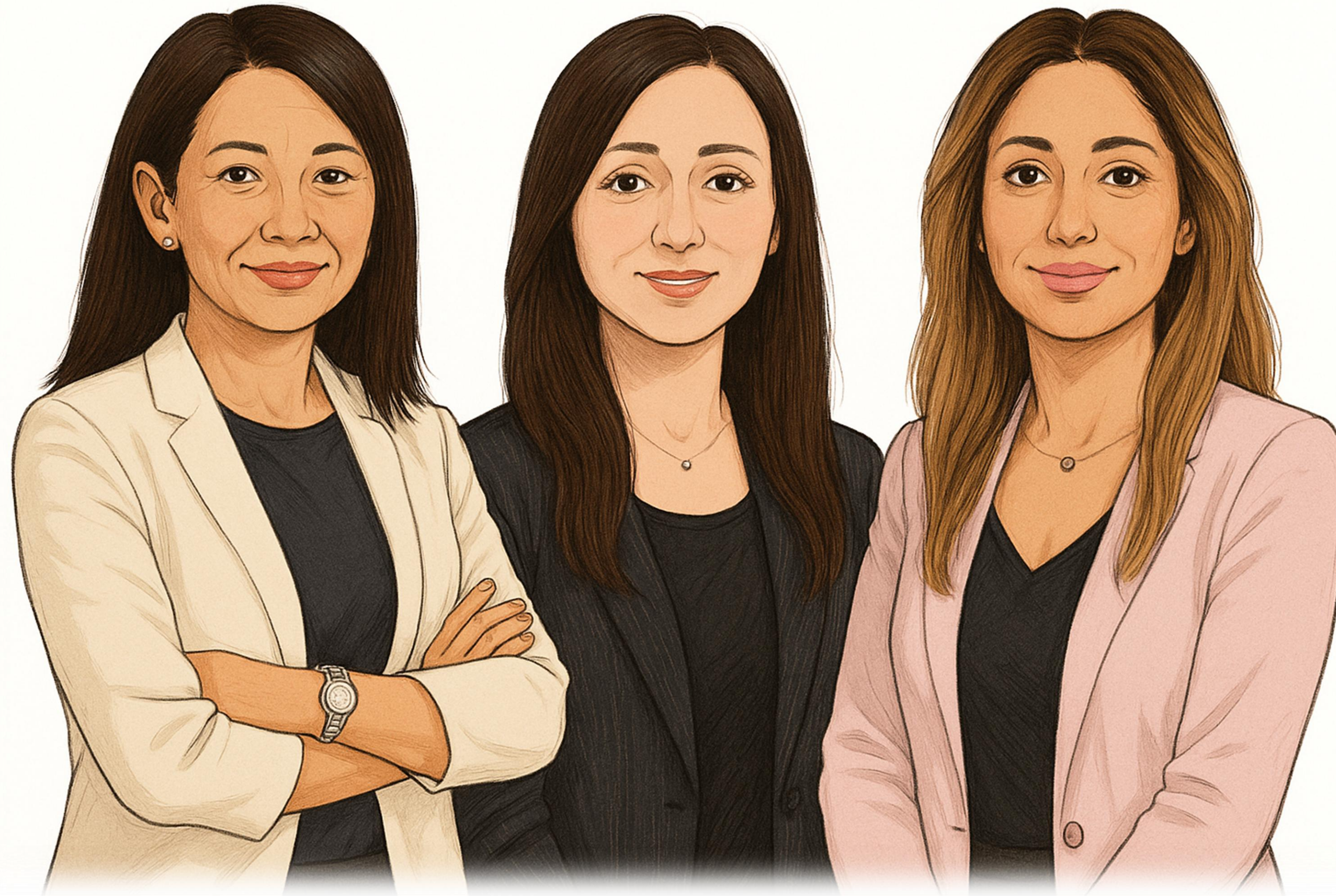
Ms. Diana Audi

Ms. Randa Bou-Mehdi

Future Focus Series | November 27, 2025



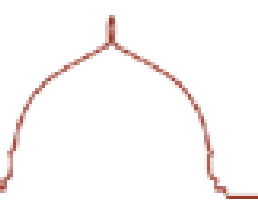
About Us



Norita Ahmad

Randa Bou-Mehdi

Diana Audi



Agenda

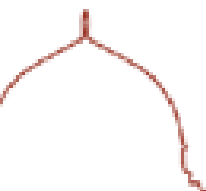
- **Rethinking Assessment in the Age of AI**
 - Why Rethink Assessment
 - From Testing to Thinking
 - Framework for AI-Informed Assessment Design
 - What AI Adds to Assessment Design
- **Assessment in Action: Business, Math and Writing Perspectives**
 - ISA405: Information Systems Strategy
 - MTH104: Calculus II
 - WRI001: Basic Academic Writing
- **Discussion**
 - Cross-Disciplinary Insights
 - Practical Takeaways



Session Objectives

By the end of this session, participants will be able to:

1. Understand how generative AI is transforming assessment design and feedback in higher education.
2. Explore strategies for creating authentic, AI-resilient, and AI-enhanced assessments aligned with course learning outcomes.
3. Identify opportunities to integrate powerful experiential exercises into their courses to deepen learning and engagement.





Which part of assessment has been most affected by AI in your courses?

Rethinking Assessment in the Age of AI



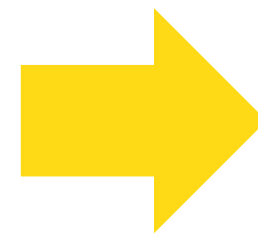
Why Rethink Assessment

- AI has changed how students access, process and generate information.
- Traditional take-home tasks are increasingly automatable.
- Assessment must prioritize:
 - thinking over recall and
 - process over product
- AI creates opportunities to make assessment more **authentic, inclusive, and feedback-rich.**

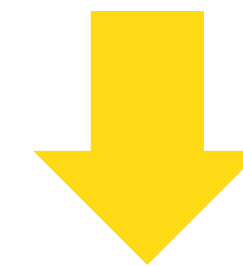


From Testing to Thinking

What do students know?



How do students think, reason, and apply?



Critical evaluation
Reflection + metacognition
Scenario-based and real-world application
Multi-step reasoning



Framework for AI-Informed Assessment Design

Stage 1

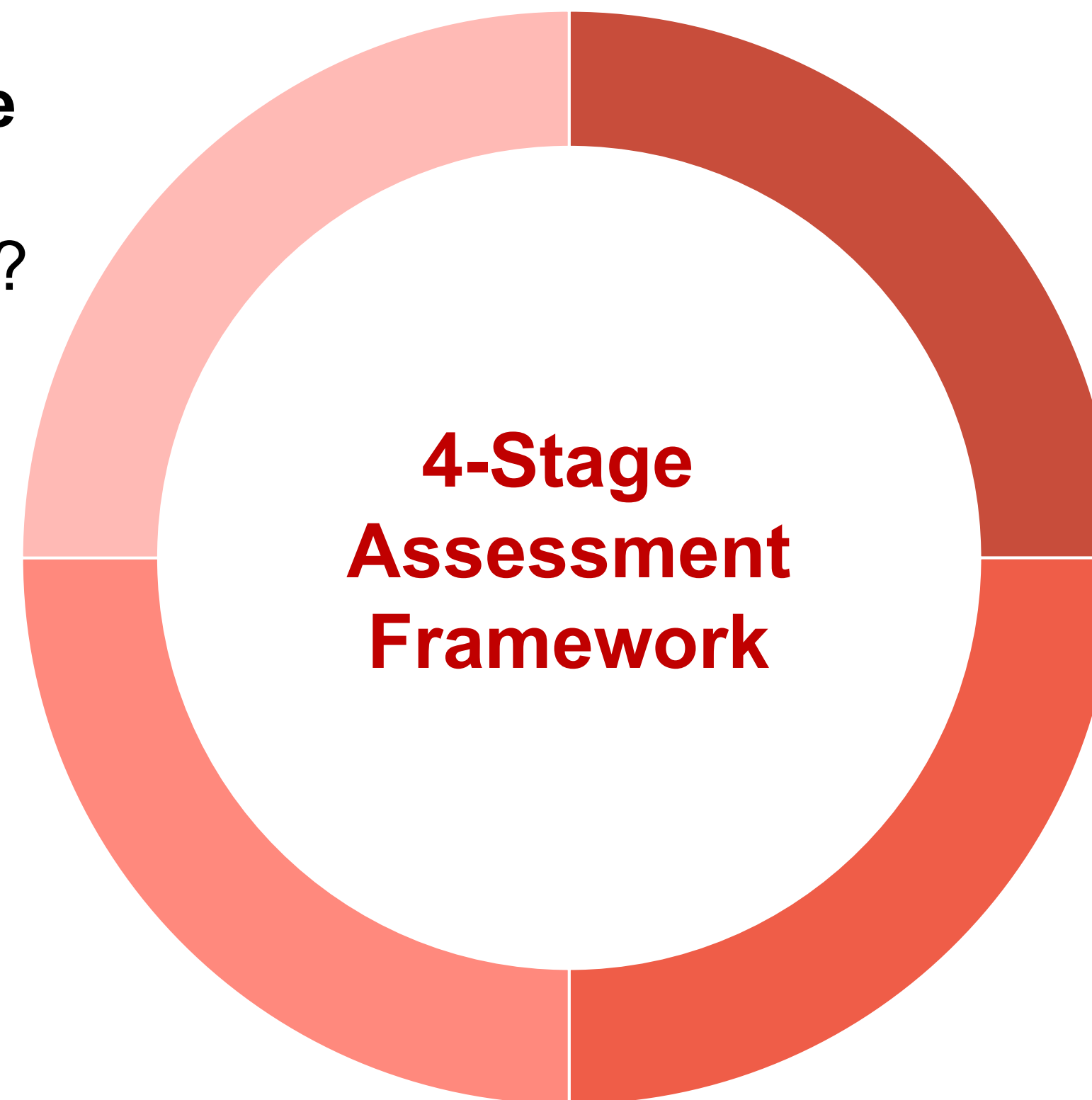
Clarify the learning outcome

What thinking or skill do you want students to demonstrate?

Stage 4

Design for transparency & authenticity

- Require reasoning, drafts, checkpoints (multi-layered)
- Personal application
- Reflection on process



Stage 2

Choose the right assessment format

Pick formats that are *AI-resilient* (process-based) or *AI-enhanced* (scaffolded)

Stage 3

Define the role of AI

- Allowed?
- Restricted?
- Required?

What AI Adds to Assessment Design



Generate multiple variations of questions for different levels or sections.

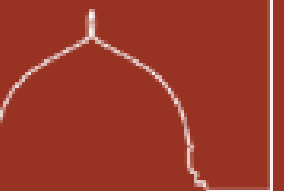
Create real-world scenarios or case prompts quickly.

Draft rubrics aligned with learning outcomes.

Provide formative feedback during student work.

Support accessibility (language scaffolding, rephrasing, exemplars).

Assessment in Action: Business, Math and Writing Perspectives



ISA405: IS Strategy | SBA

The Phoenix Project



CLOs

1. Develop an IS strategic plan.
2. Apply an interdisciplinary/cross functional perspective to the strategic role of IT/IS in achieving and sustaining a competitive advantage in the global market.
3. Appraise the latest issues and research related to IS strategy.
4. Assimilate new material related to IS strategy to structure, analyze , and solve real world problems.
5. Produce reports and plans developed in a team context.

Assessment	Weight
3 Case Write Up	15%
3 Case Presentation	15%
ISA Strategy Project	30%
Project Presentation	10%
Interactive Case Discussion	15%
Leadership Reflection Journal	15%

Assignment & Prompt Examples



Case Analysis 1

Assignment Title: IS Strategy Triangle

Objective: Students use a generative AI tool to produce an initial response to a strategy question, then critically analyze its reasoning, accuracy, and assumptions.

Assessment Goal: Critical thinking, metacognitive awareness, and responsible AI use.

Prompt Examples

“Generate three possible ways to assess students’ ability to apply IS Strategy Triangle in real-world settings.”

“Create a rubric based on the assignment instructions that emphasizes originality, process, and reflection.”

Stage 1

Clarify the learning outcome

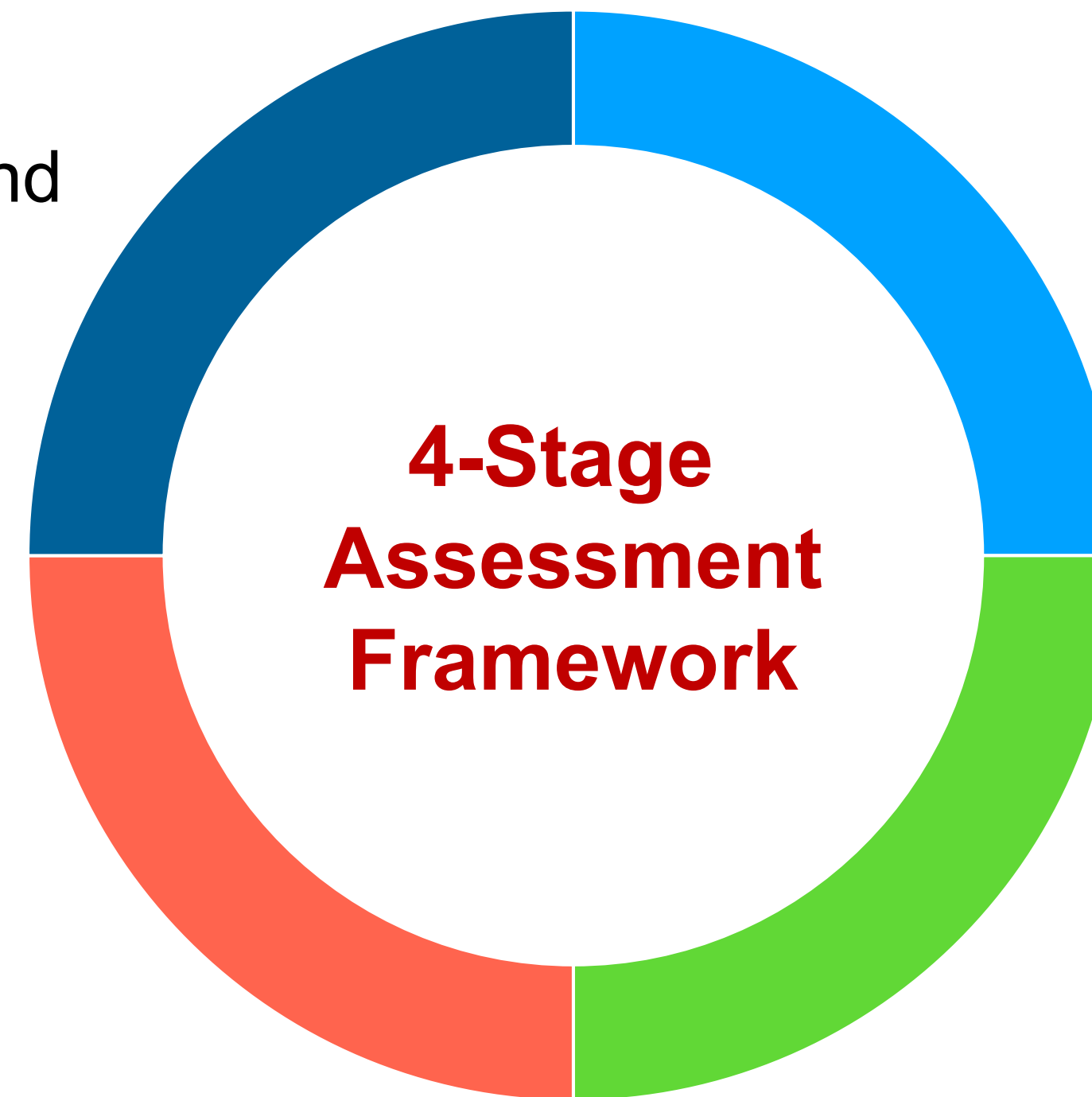
Objective: Students demonstrate critical thinking and ability to apply the IS Strategy Triangle using AI-generated insights.

Outcome: Encourages higher-order thinking, conceptual understanding, and reflection.

Stage 4

Design for transparency & authenticity

- Reflection and personal reasoning.
- Authentic context linking theory to real-world scenarios.
- Individualized judgment and analysis.



Stage 2

Choose the right assessment format

Format: Case analysis using GAI as a thinking partner.

Rationale: Process-based and AI-resilient, students critique and evaluate rather than reproduce AI content.

Stage 3

Define the role of AI

- **Role:** AI as a support tool for exploration.
- **Guidelines:** Students must generate one AI response, evaluate its accuracy and reflect.
- **Ethical framing:** Emphasizes responsible, purposeful AI use.

Assignment & Prompt Examples



Presentation 3

Assignment Title: Presentation of the Phoenix Project, Chapters 25-29

Objective: Students choose a multimedia format (video, podcast, role-play, or news report) to illustrate teamwork, leadership, and IT strategy concepts.

Assessment Goal: Creativity, ethical AI integration, and reflective application of theory.

Prompt Examples

“How can I modify this assignment so that AI tools support student creativity but do not complete the critical thinking for them?”

“List potential ethical challenges students might face when using AI in this task and suggest guidelines I can include in the instructions.”

Stage 1

Clarify the learning outcome

Objective: Students demonstrate comprehension and critical reflection on leadership, teamwork and IT strategy concepts in The Phoenix Project.

Outcome: Encourages conceptual understanding through storytelling and creative application.

Stage 4

Design for transparency & authenticity

- Requires reflection on format choice and message delivery.
- Encourages personal and group interpretation of course concepts.
- Integrates checkpoint for instructor feedback and peer sharing.

Stage 2

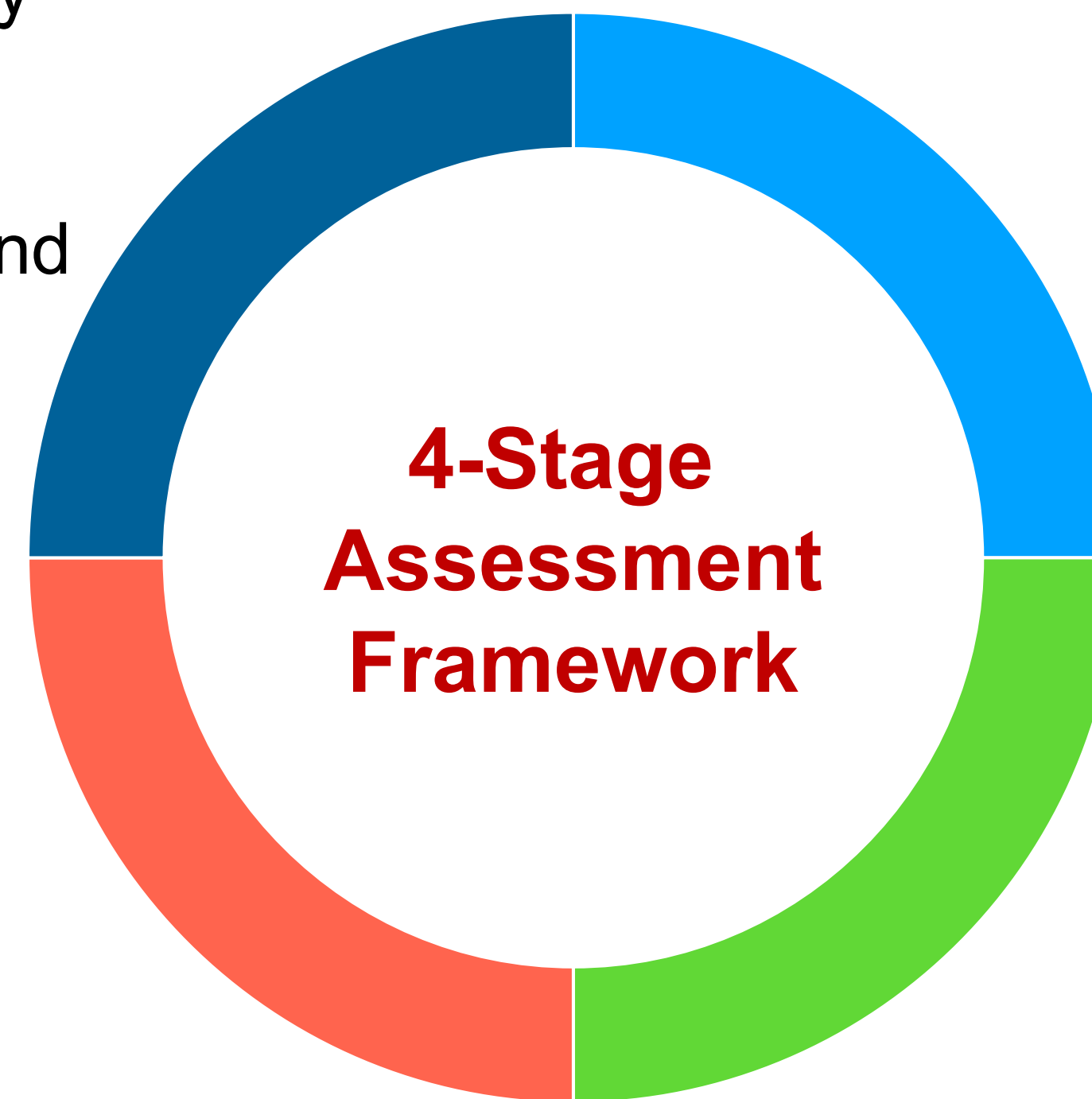
Choose the right assessment format

Format: Students select a creative medium to express understanding.
Rationale: Provides flexibility and authenticity while promoting multimodal literacy and engagement. **Process rather product-based**

Stage 3

Define the role of AI

- **Role:** AI can assist in idea generation but cannot replace original thinking and teamwork.
- **Guidelines:** Students document if and how AI was used.
- **Ethical framing:** Reinforces responsible, transparent, and creative AI use.



Demo: Rubric and Feedback

Leadership Reflection Journal



Instruction

As a reflective component, each student will submit an individual reflection that synthesizes their personal insights, learning experiences, and challenges encountered throughout the capstone course. Drawing upon the class activities and discussion, case from “The Phoenix Project” and connecting them to their broader major coursework, students should articulate how their understanding of IT leadership has evolved and how the integration of data analytics, database management, and system analysis and design has enhanced their approach to solving complex IT challenges. This reflective exercise encourages students to critically assess their growth as IT professionals, fostering a deeper appreciation for the interdisciplinary nature of their major.

Note: *You can do your reflection in any media of your choice.*

MATH 104: Calculus II | CAS

Course Description

Covers techniques of integration, hyperbolic functions, improper integrals, arc length, surface area, infinite series, power series, convergence tests, parameterized curves, polar coordinates, integration in polar coordinates, and complex numbers.

Course Learning Outcomes and Assessment Instruments

Learning Outcomes

Upon completion of this course, students will be able to:

1. Evaluate proper and improper integrals using integration by parts, trigonometric substitution, partial fractions and the necessary tests for convergence.
2. Compute arc length and surface area of revolution of parametric and polar curves and find enclosed areas.
3. Use various tests to determine whether a series converges or diverges.
4. Manipulate power series, and use them to represent and approximate functions.

Assessment Instrument(s)

Midterm Exam and/or Quizzes

Final Exam and/or Quizzes

Midterm Exam and/or Quizzes

Final Exam

Objectives

1. Understand AI's role in math education
2. Explore ClassPoint tools for formative assessments
3. Apply AI integration with ClassPoint
4. Practice with real math examples

Why Use AI in Teaching Mathematics?

1. Enhance engagement
2. Provide instant feedback
3. Personalize learning paths
4. Automate quiz and assessment creation

Challenges in Teaching College Math

1. Abstract concepts (limits, series)
2. Lack of engagement
3. Varied student preparation
4. Assessment inefficiencies

What is ClassPoint?

- Add-in for PowerPoint
- Live student engagement
- AI quiz generation
- Slide drawing, word cloud, image upload ..

HOW?

- Visit classpoint.io
- Install and activate
- Toolbar appears in PowerPoint

Core Features – For Assessments

1. AI Quiz Generator
2. Slide Drawing + AI
3. Word Cloud
4. Image Upload + AI

1- AI Quiz Generator - Overview

1. Auto-generate quiz from slides
2. Supports MCQs, True/False
3. Some limitations with math syntax and symbols 😞

Equation of a Line – AI QUIZ DEMO

- The equation of a straight line is a fundamental concept in geometry and algebra, expressing the relationship between the x and y coordinates of points lying on that line. There are a few different forms of the equation of a straight line, but one of the most commonly used is the slope-intercept form, which is expressed as:
- $y=mx+b$

In this equation: y and x are the coordinates of any point on the line.

- m represents the slope of the line, which is the rate of change of y with respect to x . It indicates how steeply the line rises or falls as you move along it.
- b is the y-intercept, which is the point where the line intersects the y-axis. It represents the value of y when $x=0$, essentially giving the vertical position of the line.
- To understand how this equation works, let's consider its components:

1. Slope (m): The slope determines the angle at which the line slants upwards or downwards from left to right. A positive slope means the line rises from left to right, while a negative slope means it falls. A slope of zero results in a horizontal line, and an undefined slope represents a vertical line.

2. Y-intercept (b): This is the point where the line crosses the y-axis. It represents the value of y when $x=0$. Essentially, it indicates the initial value of y before considering any change due to the slope.

- When you have the slope and y-intercept, you can easily plot the line on a graph. You start by plotting the y-intercept on the y-axis. Then, using the slope, you can find another point on the line by moving vertically according to the slope (rise) and horizontally according to a unit change in x (run). You can repeat this process to get more points on the line if needed, and then connect these points to visualize the straight line.
- Overall, the equation of a straight line in slope-intercept form provides a simple and efficient way to represent and understand the behavior of linear relationships between variables. It's a foundational concept in mathematics and has applications in various fields such as physics, engineering, economics, and more.

In the equation $y = mx + b$, what does 'b' represent?



Answer

Answer: the y-intercept



Fill in the Blanks

If the slope of a line is 2 and the y -intercept is 3, what is the equation of the line?



Answer

Answer: $y = 2x + 3$



Fill in the Blanks

Explain the significance of the y -intercept in the slope-intercept form.



Answer



Short Answer

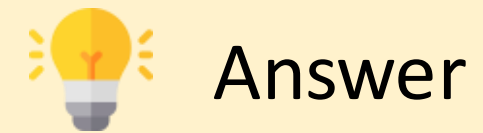
Log and Exp – CONCEPT

USE AI QUIZ GENERATOR

- A **logarithm** is the inverse of an **exponential function**.
- While exponential functions involve raising a base to a power (e.g., $2^x=8$), logarithms ask the opposite question: "**To what power must we raise the base to get a certain number?**" For example, since $2^3=8$, we say that $\log_2(8)=3$
- This inverse relationship is very similar to how **multiplication and division** are opposites.
- In the same way that multiplication "builds up" and division "breaks down," exponential functions grow rapidly, while logarithmic functions grow slowly and allow us to "unpack" exponential growth.

What is the definition of a logarithm?

- A. A number raised to a power
- B. The inverse of an exponential function
- C. A way to multiply numbers
- D. A method of division



Correct answer: B

 Multiple Choice

2. MCQ Overview - CLASSPOINT

- It allows you to ask multiple-choice questions directly within your PowerPoint presentation, turning a static slide into an interactive quiz.

Solve for x :

$$\log_2(x-1)=3$$

A. $x=6$

B. $x=7$

C. $x=8$

D. $x=9$

E. $x=9$

F. $x=10$



Multiple Choice

3- Slide Drawing - Overview

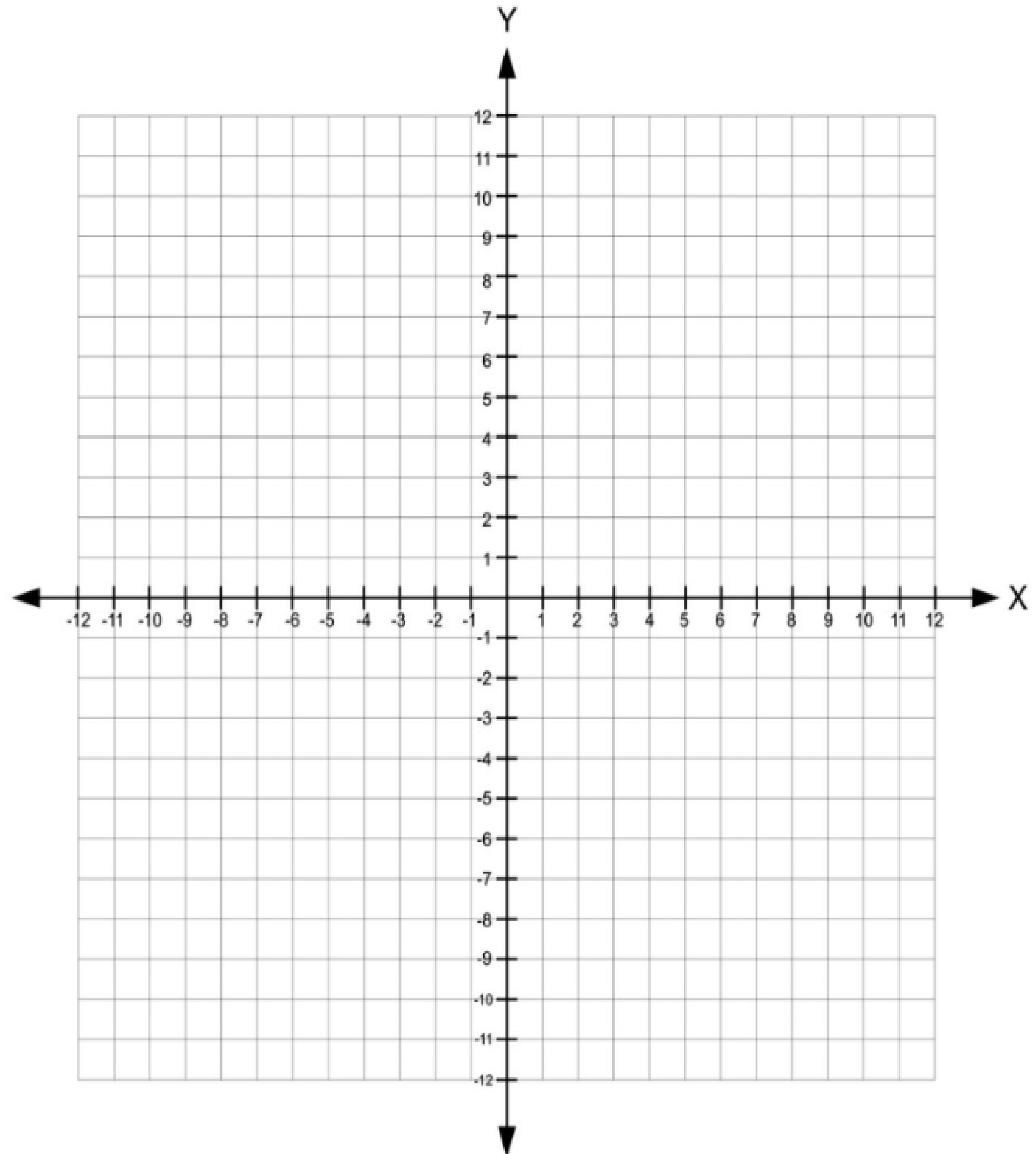
- Collaborative live input
- Students annotate slides directly
- See all responses in real time

**Plot this function
on the graph:**

$$y = \sin(x)$$



Slide Drawing



Word Cloud - Overview

- Collect keywords from class
- Great for ***concept review***



Word Cloud

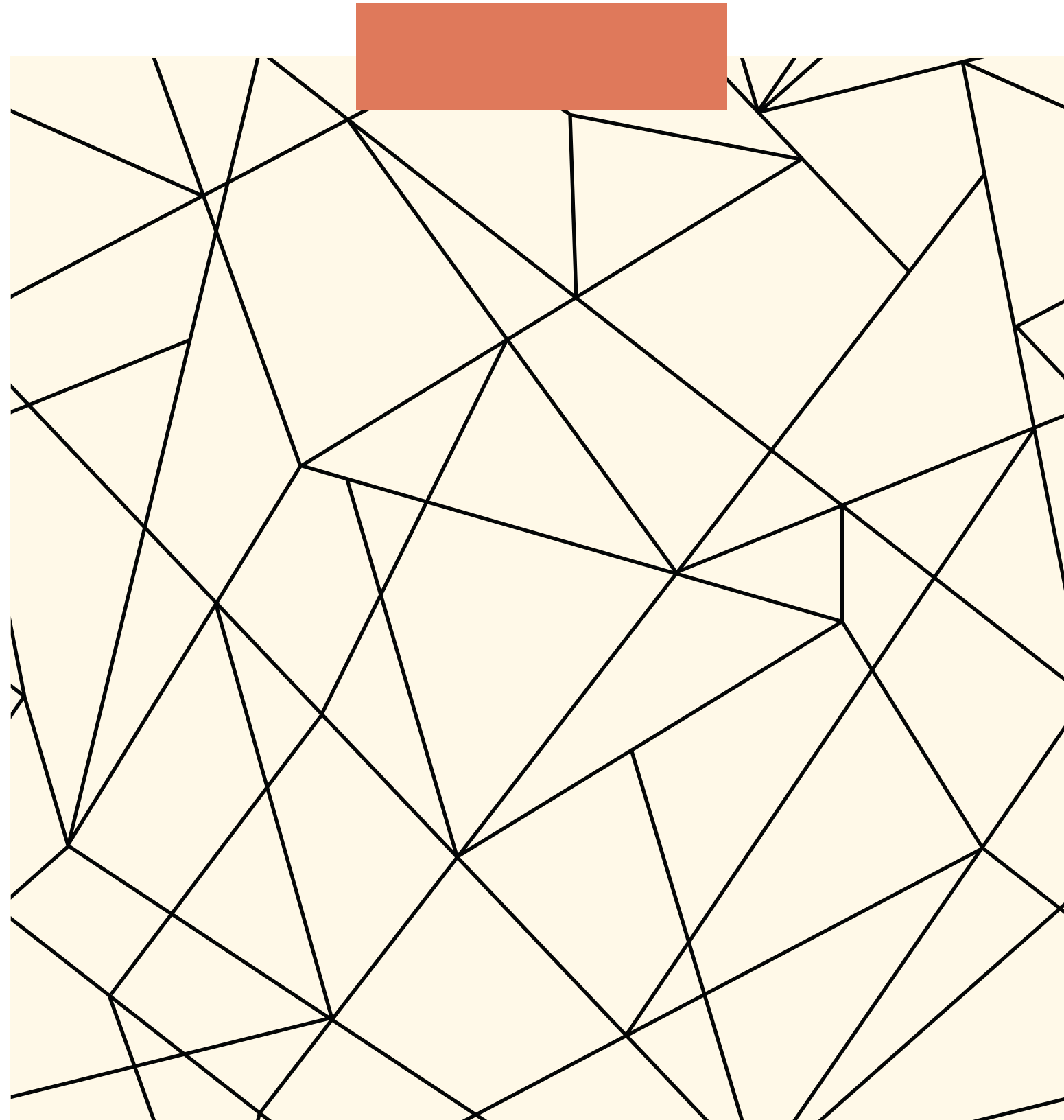
General Math Vocabulary

1. What's one word you associate with **functions**?
2. In one word, describe what **a limit** means to you.
3. What's the most important idea in **differentiation**?
4. What concept in today's class was the **most confusing**?
5. What word best describes your feeling about today's topic?

◆ Calculus II (Math 104)

11. What's one word that describes an **improper integral**?
12. What's a keyword you'd use to explain **convergence**?
13. What's one strategy for solving **integrals**?
14. What does a **power series** make you think of?
15. Use one word to describe **parametric equations**.

What word best describes your feeling about today's topic?



Word Cloud

Image Upload - Overview

ClassPoint's Image Upload lets students submit:

- Photos of handwritten work
- Screenshots from calculators, software, or online tools
- Real-world graphs, charts, or examples

As a teacher, you can:

- Project and review selected submissions
- Use them for group feedback
- Analyze errors and patterns (manually or with AI)

Tips for Success

1. Prepare slides clearly
2. Use short prompts
3. Check formatting of math
4. Combine tools creatively

Final Thoughts 😊

- AI amplifies teaching
- Saves time, boosts engagement
- Encourage experimentation

BUT USE WITH CARE !

WRI 001: Basic Academic Writing | CAS

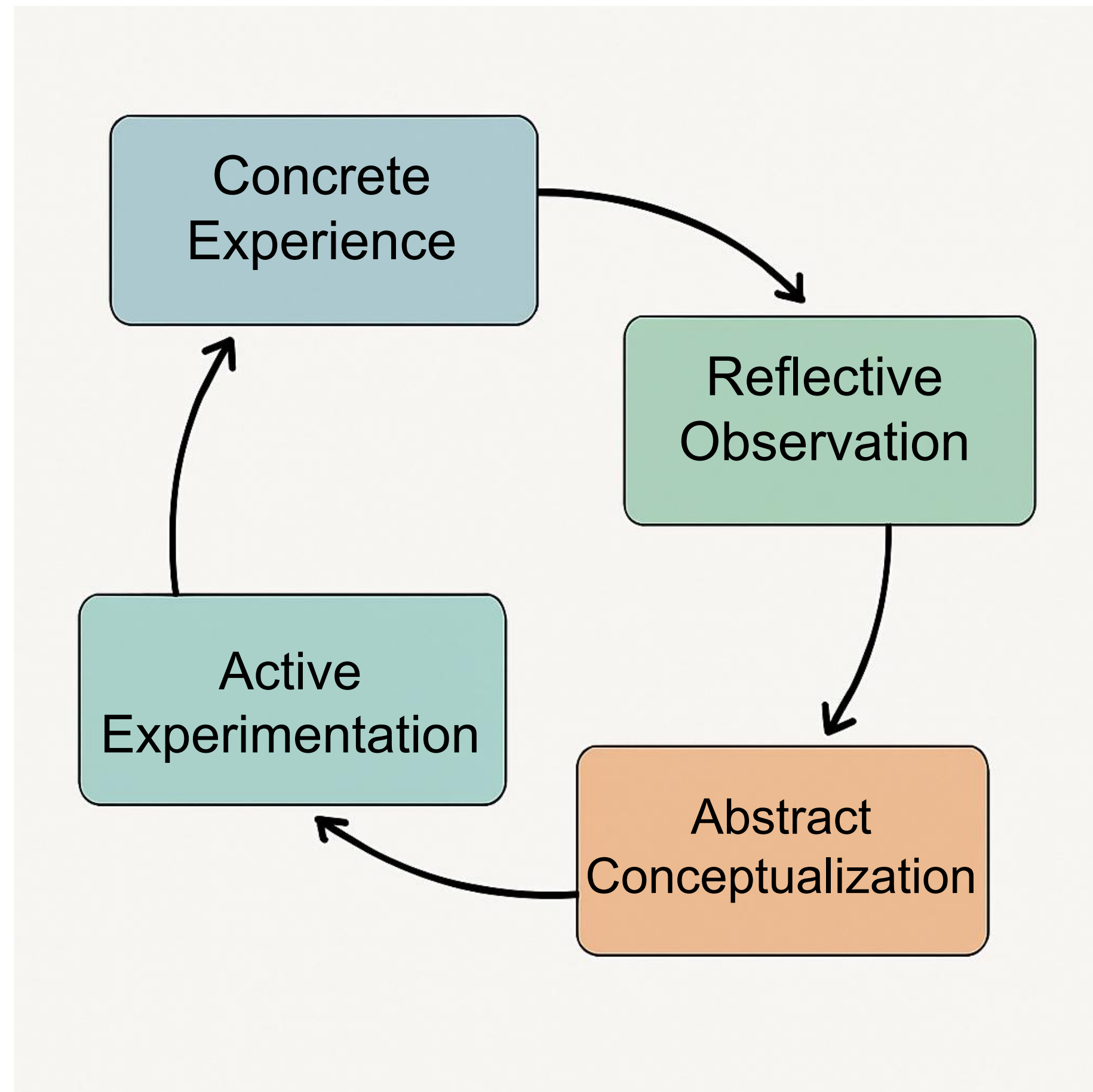
CLOs

1. Compose paragraphs and essays that are developed and organized.
2. Identify various rhetorical strategies and incorporate them effectively into written assignments.
3. Demonstrate the ability to analyze audience, purpose, context and write in an appropriate and effective tone of voice.
4. Identify and evaluate main ideas and supporting details in texts.
5. Compose clear, grammatically correct and varied sentences.

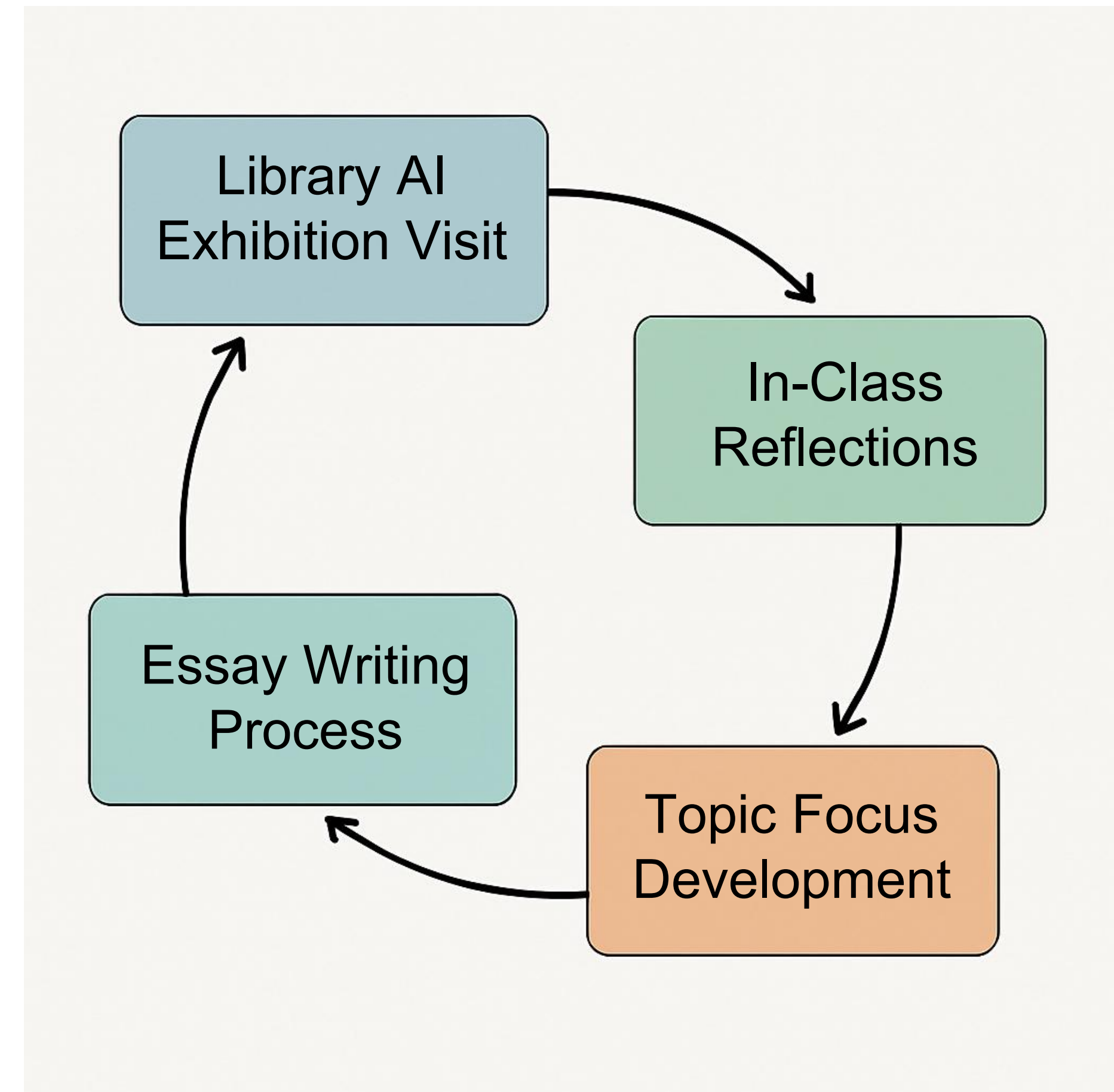
Assessment	Weight
Mini Assignments	25%
Paragraph Assignment	15%
Essay #1	25%
Essay #2	25%
Reflective Assignment	10%

Redesigning Essay #1: Theoretical Anchor

Kolb's Experiential Learning Cycle

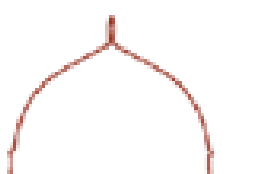
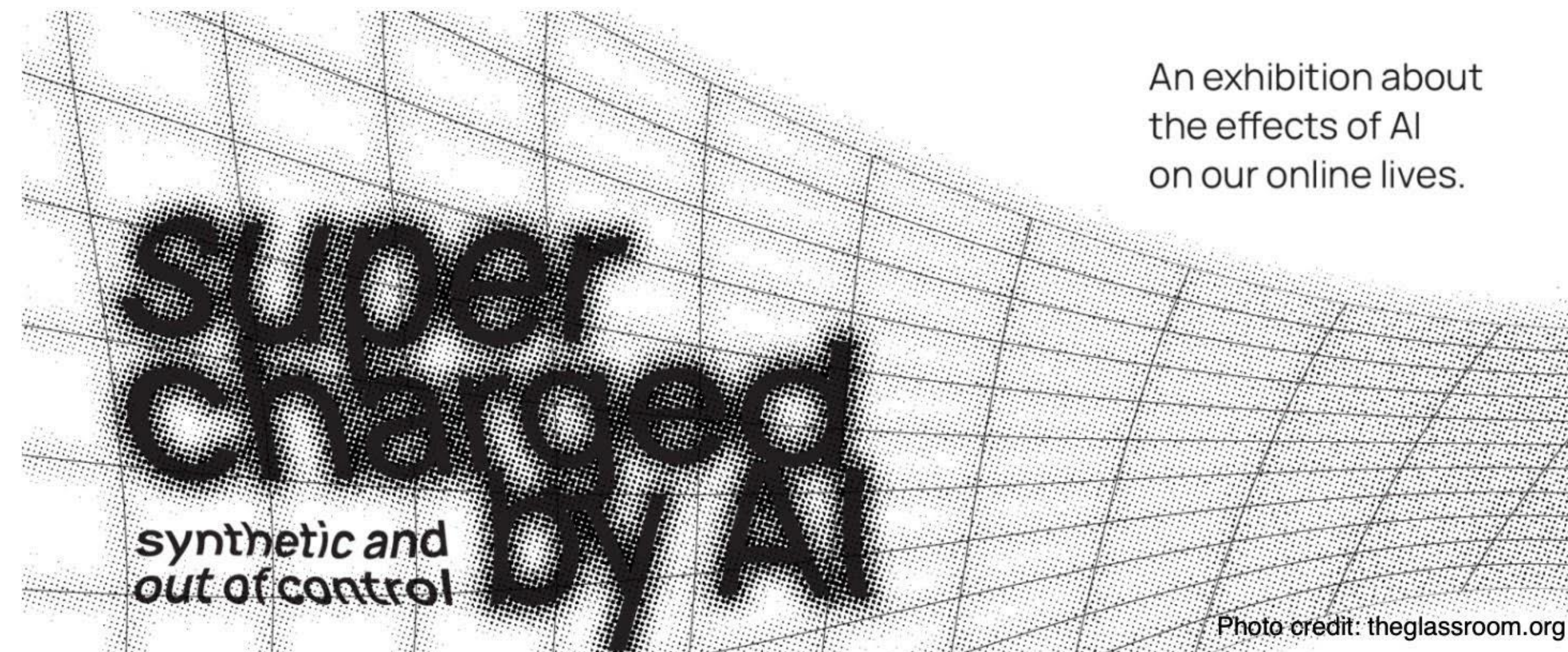


Experiential Learning in WRI 001



Library Visit

- *Supercharged by AI*: Interactive Poster Exhibition.
- Session on *AI Bias*.
- Case studies, group analysis, micro-presentations, whole class discussion, Mentimeter exit ticket.



In-Class Reflections

- Pen-and-paper freewriting: writing non-stop for 10-15 minutes (Elbow, 1973)
- No focus on grammar, spelling, or word choice.
 - ➔ strengthens students' voice
 - ➔ reduces emphasis on mistakes

Before You Begin: Freewriting Activity

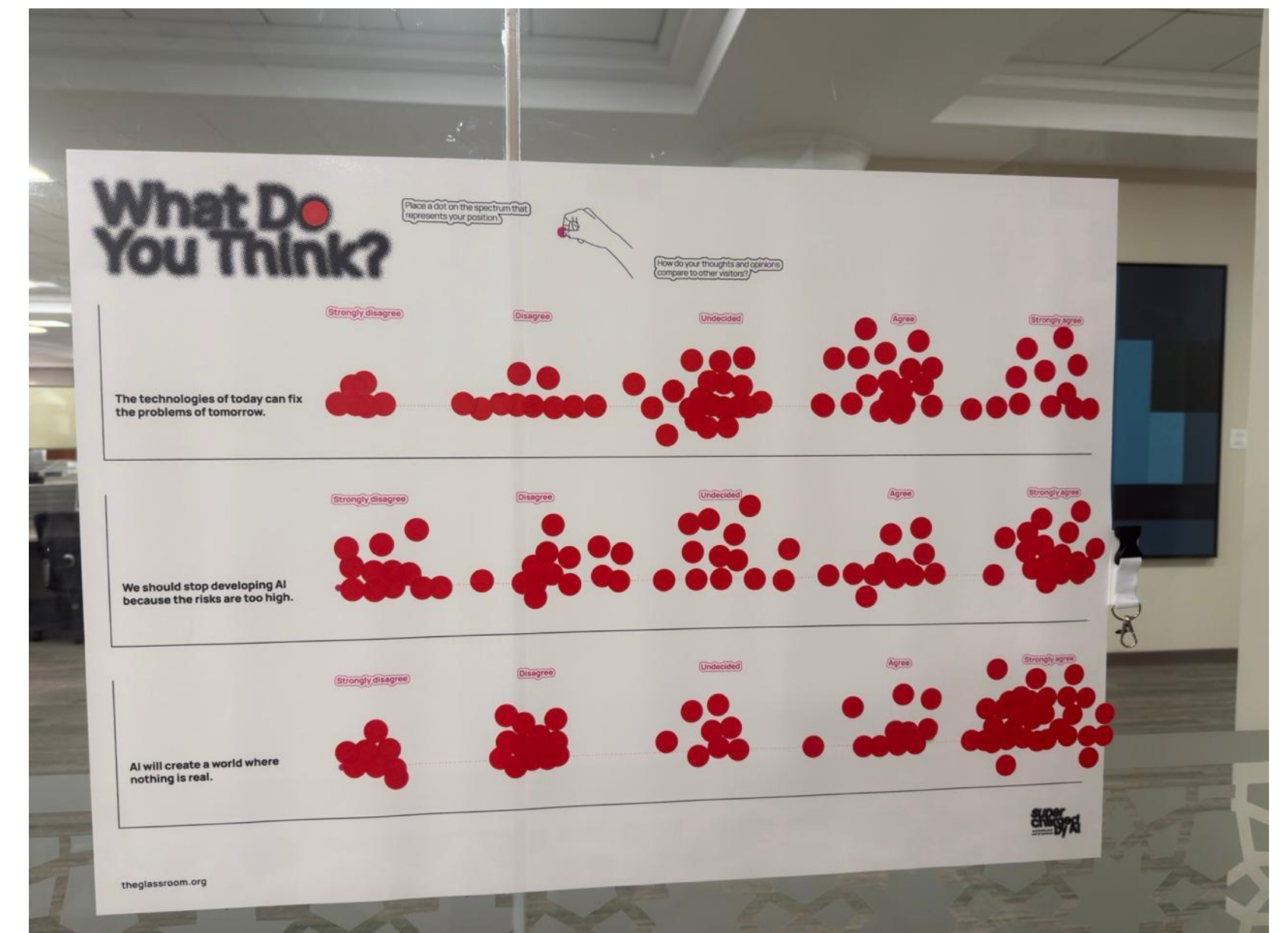
Spend **10–15 minutes** freewriting about what you learned from the library session “*Magnifying AI Bias.*”

You may respond to one or more of these statements from the exhibition:

1. “The technologies of today can fix the problems of tomorrow.”
2. “We should stop developing AI because the risks are too high.”
3. “AI will create a world where nothing is real.”

Write freely about what you think these statements mean. Which one do you agree or disagree with? Why? How does it connect to one of the case studies or posters you saw?

Your freewriting will help you develop your ideas for the essay.

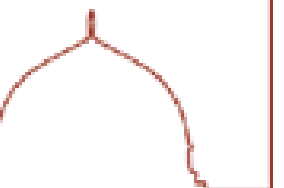


Topic Focus Development

What is ONE thing you wish your students understood better about AI?

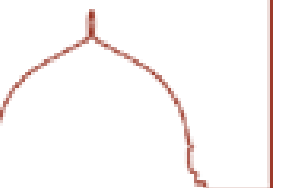
Students developed conceptual clarity about AI bias:

- Understood issues like human bias replication, unfair decisions, and gender/racial/cultural bias
- Recognized how these biases impact real-life decisions (hiring, healthcare, access to services)
- Chose one type of AI bias to focus on
- Used insights from the workshop to frame it
- Worked through thesis + topic sentences worksheet



Essay Writing Process

- In-class drafting referring to the exhibition and case studies
- Feedback cycle:
 - instructor feedback
 - peer review
 - ChatGPT-assisted review
- Students compared peer vs. ChatGPT feedback
 - reflected on whether AI can replace peer feedback
 - identified strengths/limits of each
- Included screenshots to show revisions



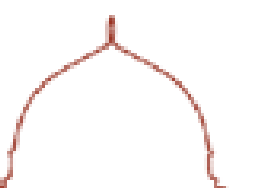
Essay Writing Process

- AI Disclaimer Table

AI Tool	Type of AI Help	How You Used It
ChatGPT	Feedback on thesis	I improved my thesis based on the feedback
Grammarly	Grammar check	I fixed sentence structure and spelling

- Reflection Table

What I Referred To	Where It Came From	What It Shows
Example 1 in paragraph 2	Case Study # ____ (title)	Shows gender bias
Example 2 in paragraph 2	Library Exhibition Poster	Shows how AI images favor light skin



Essay Writing Process

Some questions from the reflection form:

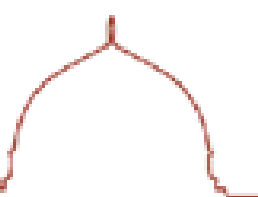
- Did you know about AI bias before the library session?

If yes, how did your perception or understanding change after reading the case studies and writing your essay?

If no, were you surprised to learn about AI bias? What surprised you most?

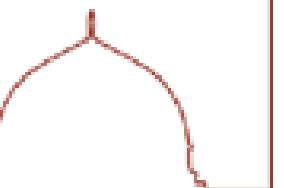
- Think about the steps we followed: library workshop → freewriting → thesis statement and topic sentences worksheet → feedback → drafting → feedback → peer review → Chat GPT review → revising and reflecting → final draft.

Which steps helped you the most in developing your ideas or improving your writing? Explain why.



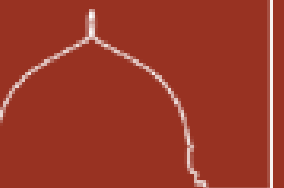
Why Does It Matter?

- Multiple approaches = deeper, more authentic learning
- Students move from *using AI* to *understanding AI*.
- In the age of AI, our role as educators is not only to deliver content, but it is also to build awareness and responsibility.



Discussion

- Cross-Disciplinary Insights
- Practical Takeaways

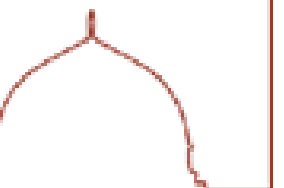


What Connects Us Across Disciplines?

Although our disciplines differ, AI challenges us all to move from **recall to reasoning**.

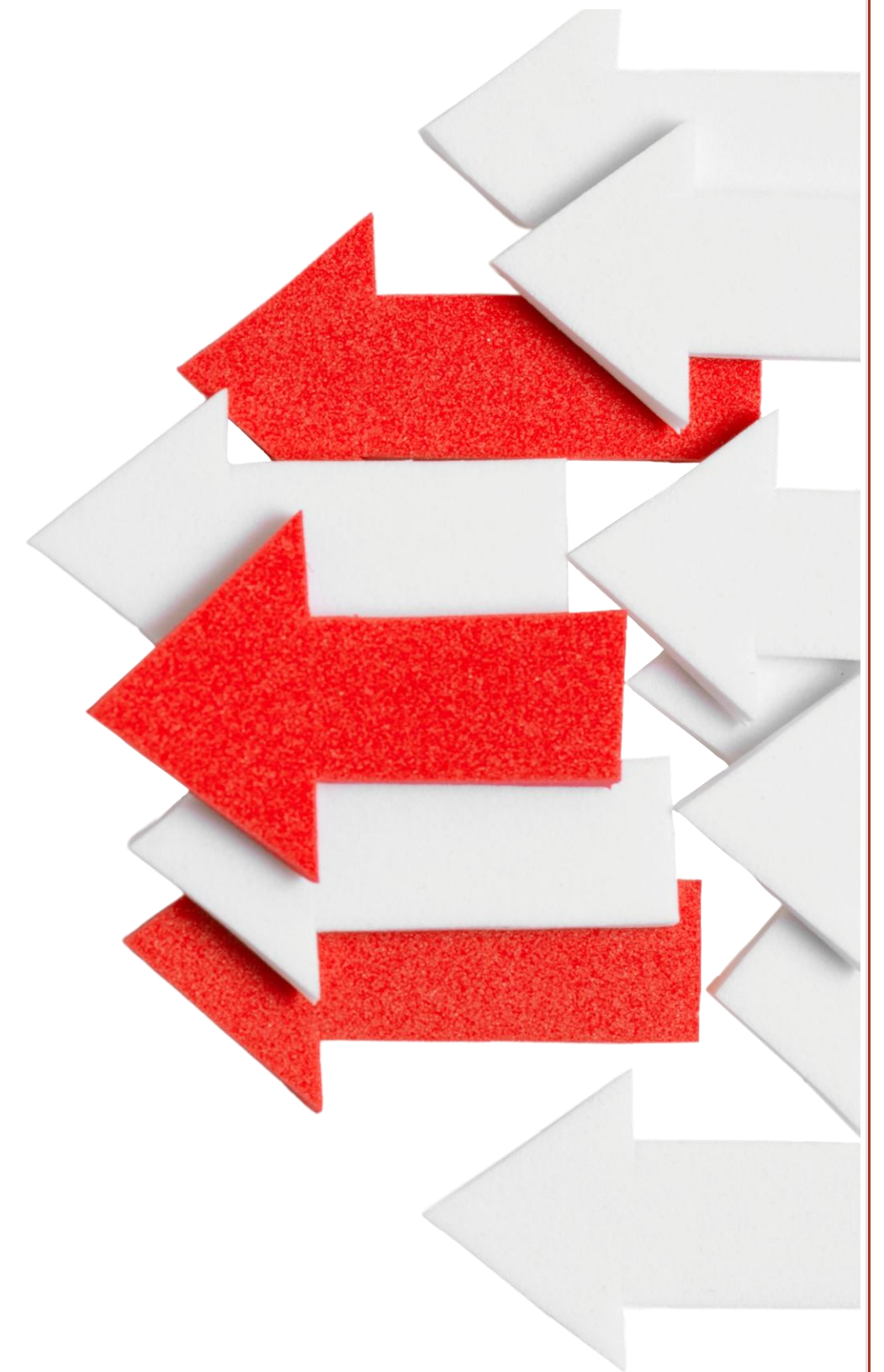
In every field. AI can enhance learning when it:

- Encourages conceptual understanding over repetition.
- Promotes process visibility.
- Supports ethical decision making and self regulation.



Practical Takeaways

1. Start small: Redesign one existing assessment.
2. Communicate AI Policy: Clarify how AI can and cannot be used in each task.
3. Build transparency: Use drafts, peer feedback, and reflect on checkpoints.
4. Focus on learning outcomes: Keep **AI as a tool**, not the goal.
5. Collaborate: Share your experience.



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