Welcome!

GenAI Workshop: ChatGPT – A Tool to Enhance 21st Century Skills

Meet the Facilitator

Paul Hadjipieris
Education Specialist
Engaged Teaching Hub
phadjipieris@ucsd.edu

Icebreaker: Common Ground

In groups of 2–3:

Share your name, department, & what are you current thoughts about using ChatGTP in your teaching?

Take ~3 minutes to identify one thing you all have in common.

Goals for Today

- Reflect on GenAI as Situational Factors around your course
- Write Course Learning Outcomes which leverage GenAI/ ChatGTP
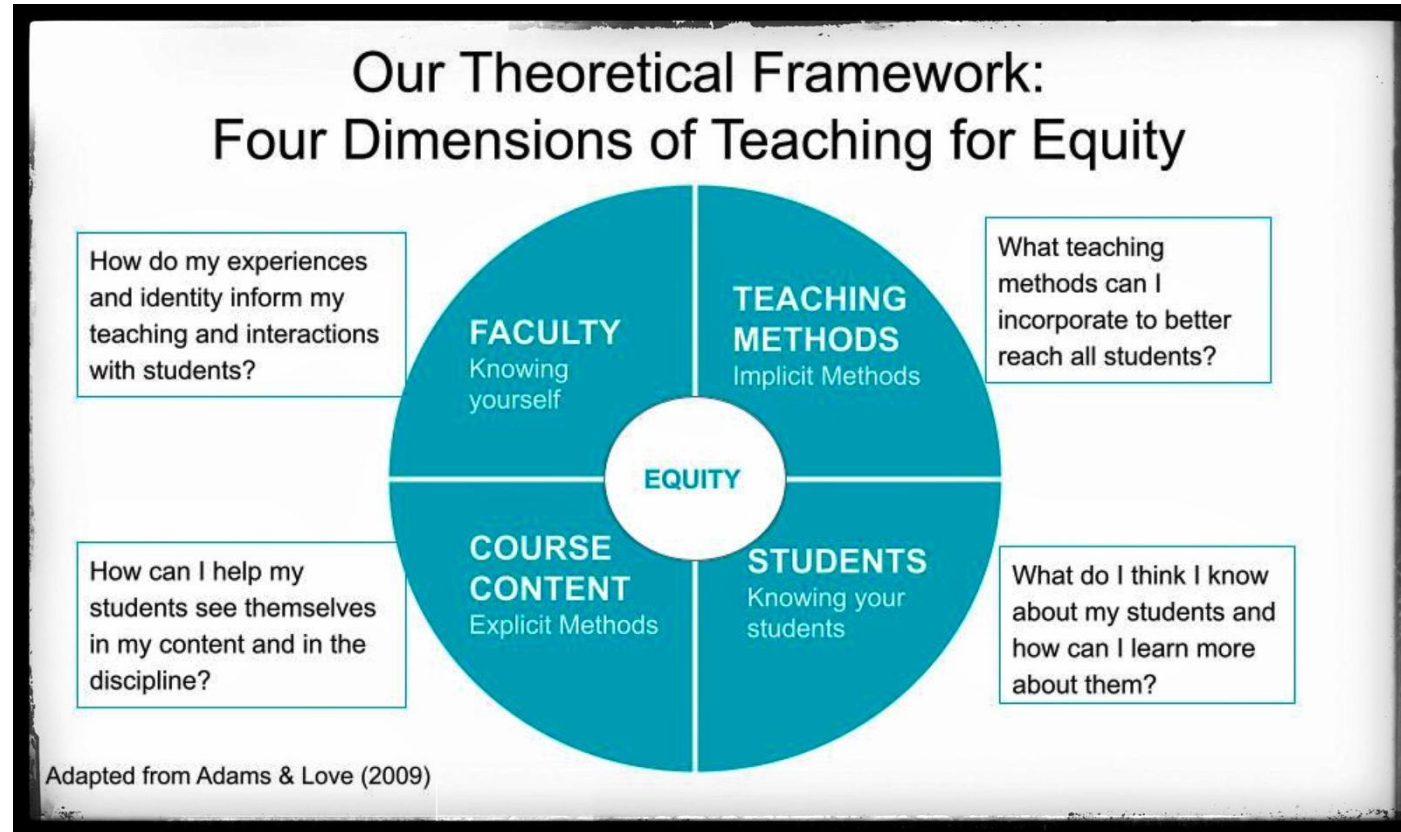- Reflect upon the use of GenAI to support student learning

How can GenAI & ChatGPT can be used to support student learning in your class?

Waiting for responses ...

Press ENTER to stop scrolling

Intro to Equity in Education

Our Theoretical Framework:
Four Dimensions of Teaching for Equity

How do my experiences and identity inform my teaching and interactions with students?

FACULTY Knowing yourself

TEACHING METHODS Implicit Methods

What teaching methods can I incorporate to better reach all students?

EQUITY

How can I help my students see themselves in my content and in the discipline?

COURSE CONTENT Explicit Methods

STUDENTS Knowing your students

What do I think I know about my students and how can I learn more about them?

Adapted from Adams & Love (2009)

Resources: Getting Started with Equity–Minded Teaching: Course Design and Teaching Practices; How faculty can advance the Latinx/ChicanX Academic Excellence Initiative

UC San Diego
TEACHING AND LEARNING COMMONS

Situational Factors of Your Course

Our Theoretical Framework: Four Dimensions of Teaching for Equity

How do my experiences and identity inform my teaching and interactions with students?

FACULTY
Knowing yourself

TEACHING METHODS
Implicit Methods

What teaching methods can I incorporate to better reach all students?

EQUITY

How can I help my students see themselves in my content and in the discipline?

COURSE CONTENT
Explicit Methods

STUDENTS
Knowing your students

What do I think I know about my students and how can I learn more about them?

Adapted from Adams & Love (2009)

Step 1: Identifying Situational Factors

The first step in course design is to carefully assess the situation. Review the teaching and learning context, and where necessary, collect further details. These situational factors set the context for crucial course decisions (Fink,2014).

UC San Diego
TEACHING AND LEARNING COMMONS
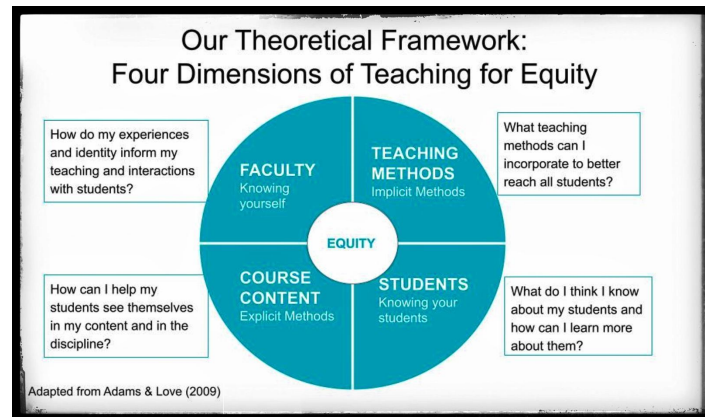
Key Situational Factors:

Specific Context:

- Number of students.
- Course level (lower, upper, graduate).
- Frequency and duration of classes.
- Mode of delivery (live, online, lab).
- Physical learning environment.

General Context:

- University and college expectations.
- Requirements set by curricula or professions.

Key Situational Factors Continued...

Nature of the Subject:

- Theoretical or practical focus.
- Convergent or divergent.
- Current controversies or changes.

Characteristics of the Learners:

- Life situations (work, family responsibilities).
- Previous knowledge/experiences.
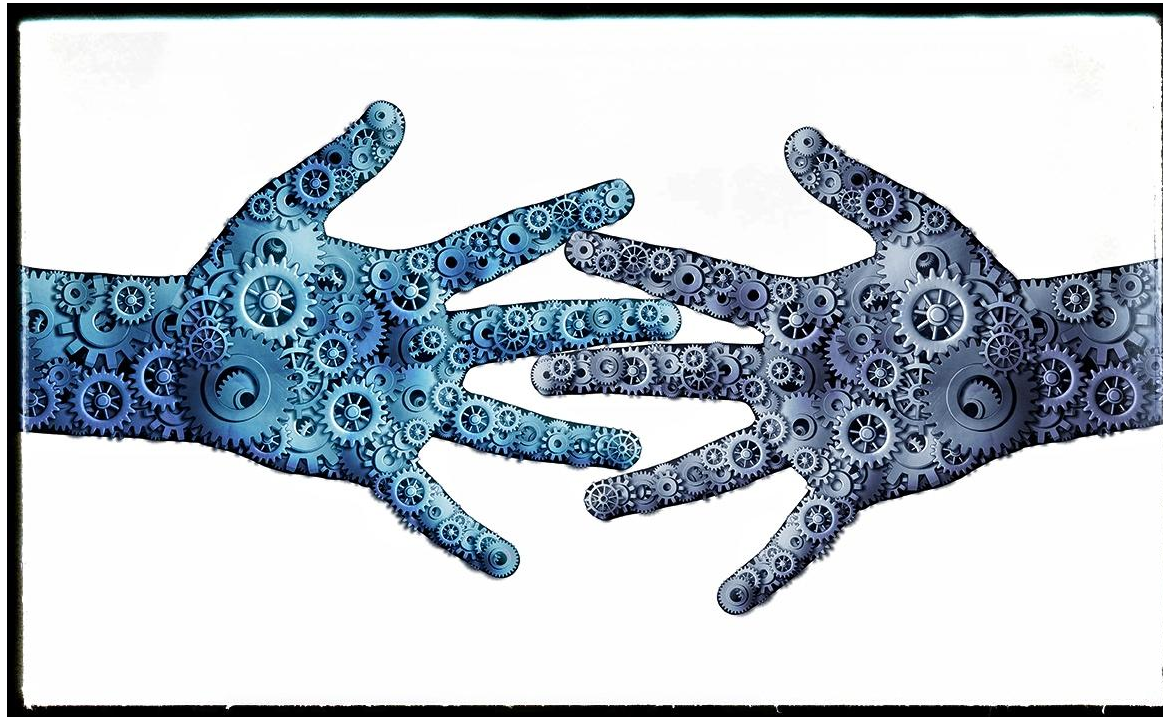- Goals and course expectations.
- Learning styles.

Characteristics of the Teacher:

- Teaching beliefs and values.
- Subject knowledge.
- Teaching strengths and challenges

Five Minute Paper

Step1: Write for 5 minutes on a prompt: What are the Situational Factors surrounding your course?

Discussion:

What are some of the situational factors surrounding your course/teaching context?

Course Learning Outcomes: Focus on What is Essential

Step 2: By identifying essential situational factors, you can focus on your Course Learning Outcomes.

Direct Instruction: Learning Outcomes: Communicating Expectations for a Course

- What is most valued?

- What must students take away?

- What skills are essential for professional practice in your discipline? (GenAI?)

- What should all students know and be able to do related to your course topic? (Skill-up-GenAI)

UC San Diego

TEACHING AND LEARNING COMMONS

Write clear & helpful learning outcomes

Student-centered
- "Students will be able to _____."

Break down the task
- Describe what students will know or be able to do in language that a novice learner could comprehend.

Action verbs
- Use action verbs based on the desired level of thinking that focus on concrete actions and behaviors.

Measurable
- Is it clear how you could assess this outcome?

Ambrose, et al., 2010

Course Learning Outcomes: Examples

After taking this course, students will be able to...

Mechanical Engineering (UCSD): ...given an experimental dataset and available analytical and computational models, be able to **evaluate** the data set, and **extract** meaningful trends and conclusions.

Introduction to Academic Research and Writing: ...**define** a research question about a topic that is appropriate to a specific academic discipline.

Introductory Oceanography: ...**explain** interrelationships of oceans to other Earth Systems.

Course Learning Outcomes: GenAI Examples

After taking this course, students will be able to...

Introduction to Academic Research and Writing: ...Dialogue with ChatGTP to **define** a research question about a topic that is appropriate to a specific academic discipline.
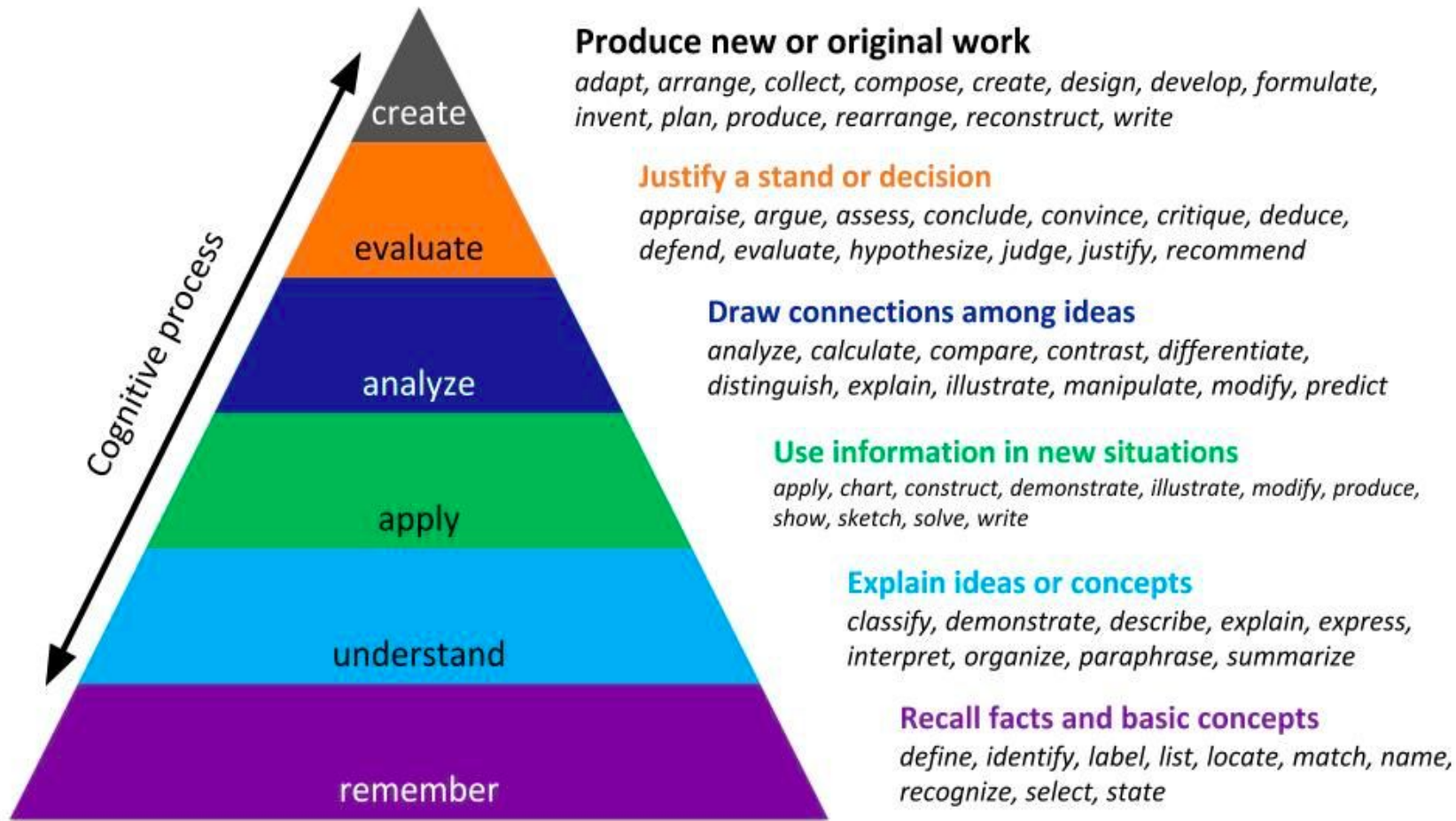
Utilize ChatGPT effectively to review, debug, and **refine** their code, ensuring its accuracy and efficiency.

Demonstrate proficiency in identifying errors and inaccuracies in their data analysis and programming tasks with the assistance of ChatGPT.

Integrate ChatGPT as a supplemental learning tool to enhance their understanding of complex data science concepts, seek clarification on topics, and engage in interactive problem-solving sessions.

World Civilization II: Use ChatGTP to critically **analyze and evaluate** various historiographical sources, distinguishing between their arguments, and **formulating** coherent analysis about the historical event.

Bloom's Taxonomy

Produce new or original work
adapt, arrange, collect, compose, create, design, develop, formulate, invent, plan, produce, rearrange, reconstruct, write

create

Justify a stand or decision
appraise, argue, assess, conclude, convince, critique, deduce, defend, evaluate, hypothesize, judge, justify, recommend

evaluate

Draw connections among ideas
analyze, calculate, compare, contrast, differentiate, distinguish, explain, illustrate, manipulate, modify, predict

analyze

Use information in new situations
apply, chart, construct, demonstrate, illustrate, modify, produce, show, sketch, solve, write

apply

Explain ideas or concepts
classify, demonstrate, describe, explain, express, interpret, organize, paraphrase, summarize

understand

Recall facts and basic concepts
define, identify, label, list, locate, match, name, recognize, select, state

remember

Cognitive process

Anderson & Krathwohl (2001); Bloom (1956)   17

E T ENGAGED TEACHING
TEACHING + LEARNING commons

Choose your own adventure - GenAI/ChatGTP learning outcomes edition!

Rooms 1 : I got this 🤓 I just need time to work🤓👍.
Rooms 2: Work time but I still have some questions.
Rooms 3: I am just starting my outcomes and I would like to talk them through.

Support from the Engaged Teaching Hub

We provide **confidential** and **non-evaluative** support for faculty in teaching development.

- **Teaching consultations and classroom observations** provide targeted, evidence–based feedback to support teaching improvement and faculty and student success.

- We collect **early student feedback** to assess student learning and identify manageable changes to courses.

- Request a teaching consultation or observation [here](#).

> *Faculty feedback:*
>
> *"I particularly enjoyed the teaching observation and the pre- and post-observation discussions. It was great to have an outsider collect data from my class and to review it. It was nice to be observed without the pressure of being evaluated by a supervisor, and it led me to some honest insights about what is and isn't working well in my teaching."*

UC San Diego
TEACHING AND LEARNING COMMONS

Exit Ticket

https://tinyurl.com/2p9vfj7t

References

Adams, M., & Love, B. J. (2009). A social justice education faculty development framework for a post-Grutter era. *Social justice education: Inviting faculty to transform their institutions*, 3-25.

Haak, D. C., HilleRisLambers, J., Pitre, E., & Freeman, S. (2011). Increased structure and active learning reduce the achievement gap in introductory biology. *Science*, *332*(6034), 1213-1216.

Freeman, S., Eddy, S. L., McDonough, M., Smith, M. K., Okoroafor, N., Jordt, H., & Wenderoth, M. P. (2014). Active learning increases student performance in science, engineering, and mathematics. *Proceedings of the national academy of sciences*, *111*(23), 8410-8415.

Killpack, T. L., & Melón, L. C. (2020). First-day info sheets: A tool to prompt semester-long inclusive teaching. *Journal of Microbiology & Biology Education*, *21*(1), 10-1128.

Owens, M. T., & Tanner, K. D. (2017). Teaching as brain changing: Exploring connections between neuroscience and innovative teaching. *CBE—Life Sciences Education*, *16*(2).

Robison, S. (2013). *The peak performing professor: A practical guide to productivity and happiness*. John Wiley & Sons.

Theobald, E. J., Hill, M. J., Tran, E., Agrawal, S., Arroyo, E. N., Behling, S., ... & Freeman, S. (2020). Active learning narrows achievement gaps for underrepresented students in undergraduate science, technology, engineering, and math. *Proceedings of the National Academy of Sciences*, *117*(12), 6476-6483.