## We will begin shortly. | There is no audio for this slide. Please take a moment to read this information.

- This event is being recorded and will be distributed to registrants approximately one week following the live event.
- Time at the end has been allotted for Q&A. You may submit questions through the Q&A function.
- For technical support questions related to Zoom, visit support.zoom.us.
- Closed Captioning and ASL Interpreters are available through your Zoom menu bar.





# HARNESSING THE POWER OF AI IN HIGHER EDUCATION

May 14, 2024

#### **Presenters**



Dr. Diana
Barbu
Senior Director
MSCHE

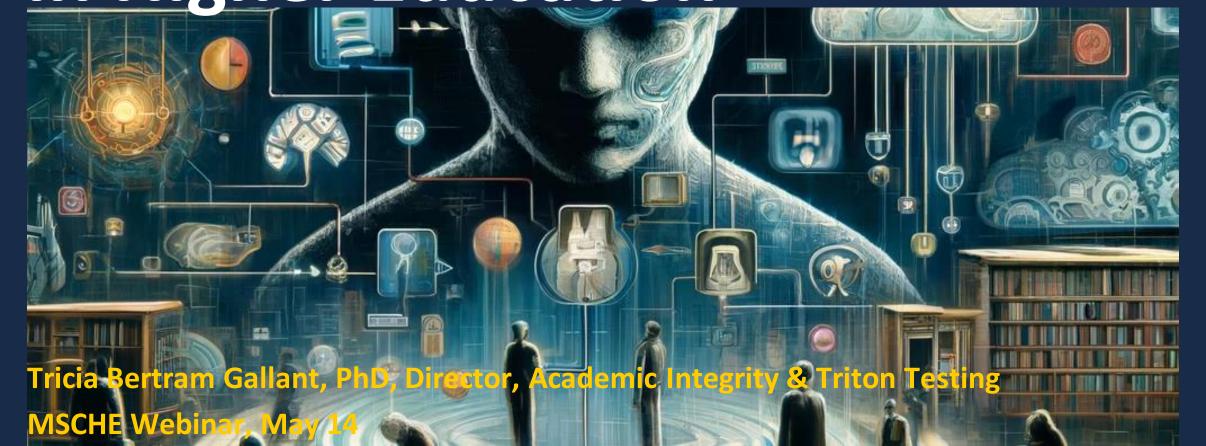


Dr. Tricia
Bertram Gallant
Director
UCSD



## UC San Diego

Harnessing the Power of Alin Higher Education



## **Our Journey Today**

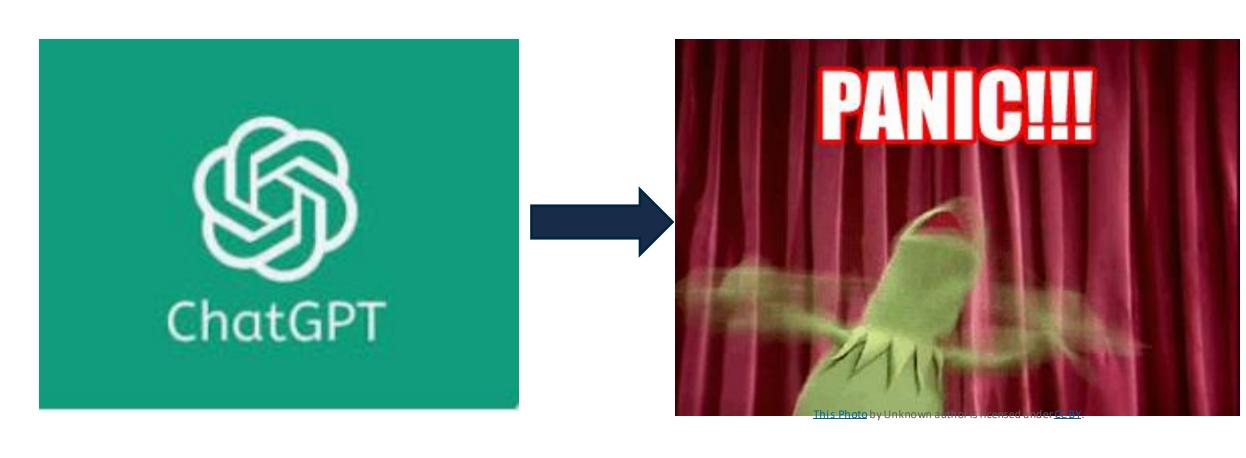
- Establish the educational promise that GenAl has disrupted
- Explore how we can harness the power of GenAl to positively disrupt teaching, learning, assessment (and accreditation)
- Consider the barriers to harnessing that power (& the solutions for breaking through those barriers)

## Where I am on the journey...



UC San Diego

## November 2022



What do we do?!?!!??!?!?!



About | No

#### **Integrity Matters Blog**

#### A Panel Discussion: How Can Educators Maintain Academic Integrity in the Age of GenAl?

Written by Tricia Bertram Gallant



(Editor's Note: This blogpost was created using Bard, ChatGPT-4, and Bing. The only content created by the human was my own responses as a panelist. I gave Bard the following prompt and then acted as the

#### Navigating the Era of Outsourcing: Rethinking Higher Education in the Age of GenAl and Contract Cheating

Written by Tricia Bertram Gallant May 16, 2023



This blog post is a written version of my opening remarks for UC San Diego's Virtual Symposium on "The Threat & Opportunities of Artificial Intelligence and Contract Cheating: Charting a Teaching & Learning Path Forward". Since this is a post, in part, about GenAl, I decided to try an experiment. I pasted my PPT notes into ChatGPT4 and asked it to generate this blog post for me. The content is mine, but ChatGPT4 gave it a

title, put it into sections with headers and connected some of the dots normal in a blog post but not necessarily in PPT notes. I edited it and updated it with some new thoughts and adjusted some things for clarity. Did it save me any time using ChatGPT4? I don't think so. But, I do think it took on the drudgery work of formatting, which freed up my time to think. And this is a good thing, I believe.

#### Klara, the Sun, and our GenAl Future

Written by Tricia Bertram Gallant June 5, 2023



When you live in San Diego California, especially when you were raised with cold Ontario winters, you hate to complain about the weather (or, at least, you hate to complain too loudly). After all, San Diego has a reputation of always being Sunny and always with the perfect 20-24°C or 70-75°F air temp. But, it's a lie. San Diego isn't perfect, isn't always Sunny, and isn't always the perfect temp, and especially wasn't this year. We have been colder, wetter, and greyer than I've experienced in my 23 years of living here. And it's been this way for months. So, when we hit our normal and expected "May Grey" and "June Gloom" weather, it wasn't a refreshing or even palatable change from the winter Sunshine and warmer temperatures; it was just more of the same. Dull, drizzly, and uninspiring.

What I have discovered about myself this past 5 months is my

#### iswering the Call to Rescue Academic Integrity from e Grips of GenAl

ten by Tricia Bertram Gallant 23, 2023



If you are an academic integrity professional, or academic integrity expert on your campus, you have likely experienced what I've experienced the last 9 months: repeated calls for help in responding to the release of GenAl tools like ChatGPT, Bing, Bard, Midjourney, and CoPilot. Maybe those calls came from your institutional leadership or maybe they came from the faculty, but they all likely sounded a lot like this - "how do we assure academic integrity when students can outsource their academic work to GenAl?"

Image Generated by Bing using t

prompt: "an image of a human fer

pixie cut, having a conversation w

# The Opposite of Cheating

Teaching for Integrity in the Age of GenAl

Tricia Bertram Gallant, PhD David Rettinger, PhD

University of Oklahoma Press Teaching, Engaging & Thriving in Higher Education Seri

coming to a book store near you in 2025

#### UC San Diego

## Where you are on the journey...

1. Choose 1-3 words from the emotion wheel to describe your feeling about the impact of GenAl on higher education: <a href="mailto:Answer1">Answer1</a> Answer (Fill in the blank)



#### Answer 1

Please enter the answer

#### Answer 2

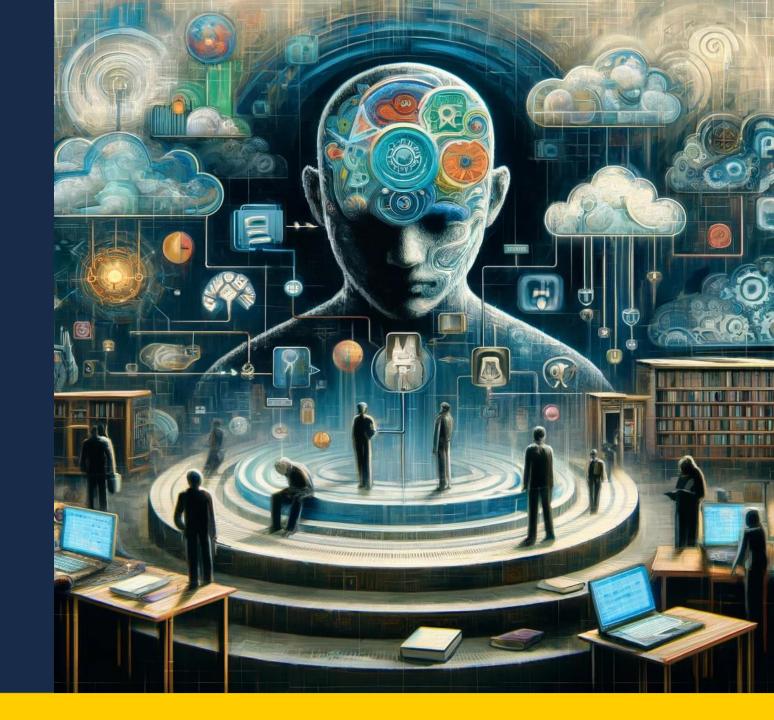
Please enter the answer

#### Answer 3

Please enter the answer

- 2. Where are you on your journey with GenAI? (Single choice)
- Novice (I haven't even played with the tools!)
- Advanced Beginner (I have played with the tools & know enough to be dangerous)
- Competent (I use the tools regularly to help me with my own work)
- Expert (I use the tools regularly for my own work & have educated myself on artificial intelligence)

# What is the Educational Promise?



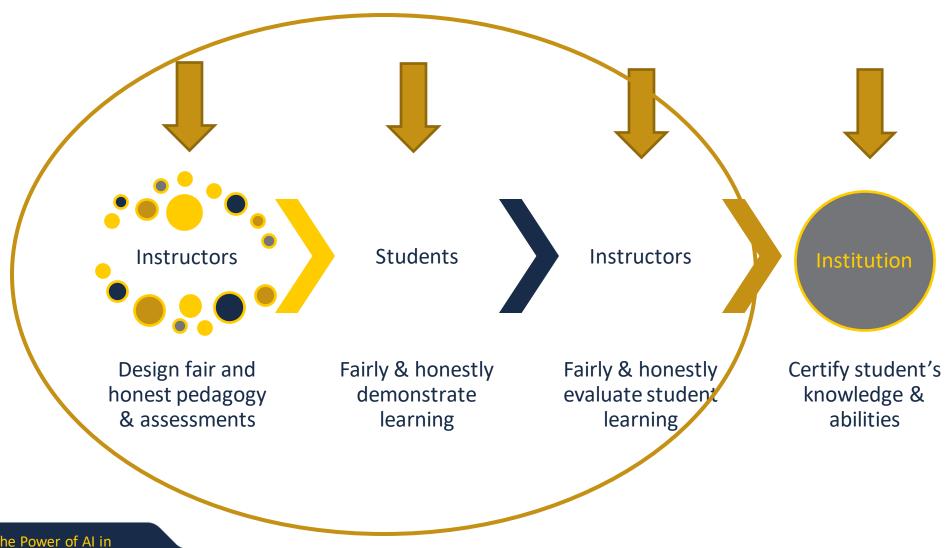
#### The HE Institution-Society Social Contract



Developing the next generation of (ethical) citizens & professionals

Institution

#### **Breakdowns in The Social Contract: Degree Integrity**



#### What is Generative AI?

- Machines that generate output based on input
- ChatGPT-3.5 (or 4) is most well known
  - Chat = "chatbot" = human interface
  - GPT = Generative Pre-Trained Transformer
  - Large Language Model (LLM)
- Other LLMs include: Bing Chat, Google Bard, and Github's Co-Pilot
- Other GenAI tools include:
  - image generators like <u>Midjourney</u> and <u>Dall-E</u>
  - music generators like **Google's MusicLM**



## Large Language Models (LLMs)

Trained to learn on an (unknown) corpus of data – hundreds of terabytes, (internet scrub: think even reddit posts and Wikipedia)

Are statistical generators – based on the input received, what is the next best word in the sentence

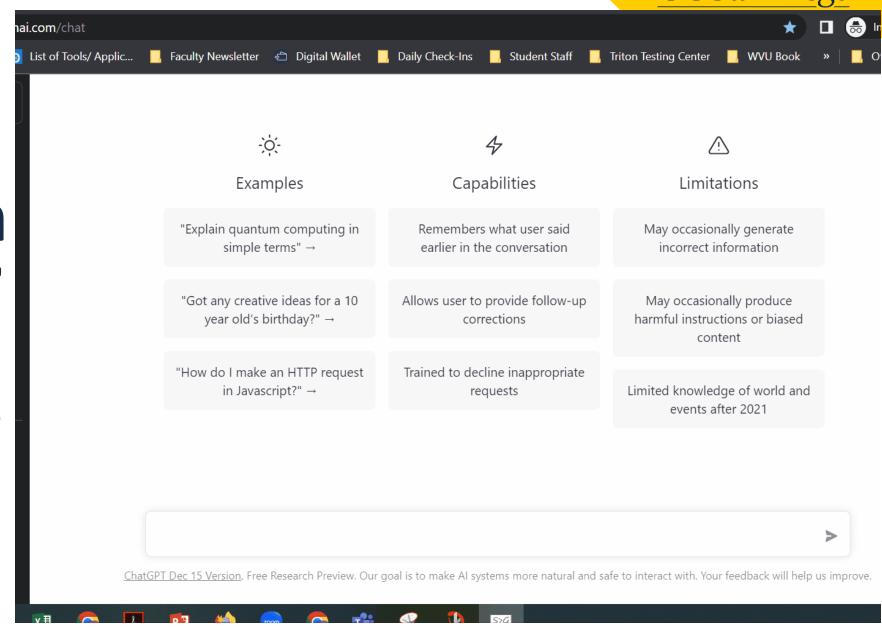
Were not trained to discern fact from fiction (think the "hallucination" problem)

Are as biased as the human works on which they were trained

Don't understand, reason, comprehend, feel, etc.

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Disruption: Students can offload their learning & assessments to machines





Getting exam questions/answers from friends

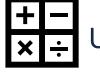


## "Cognitive offloading" isn't new

\*Dawson, P. (2020). Cognitive Offloading and Assessment

Getting other humans to do the work (aka "contract cheating")





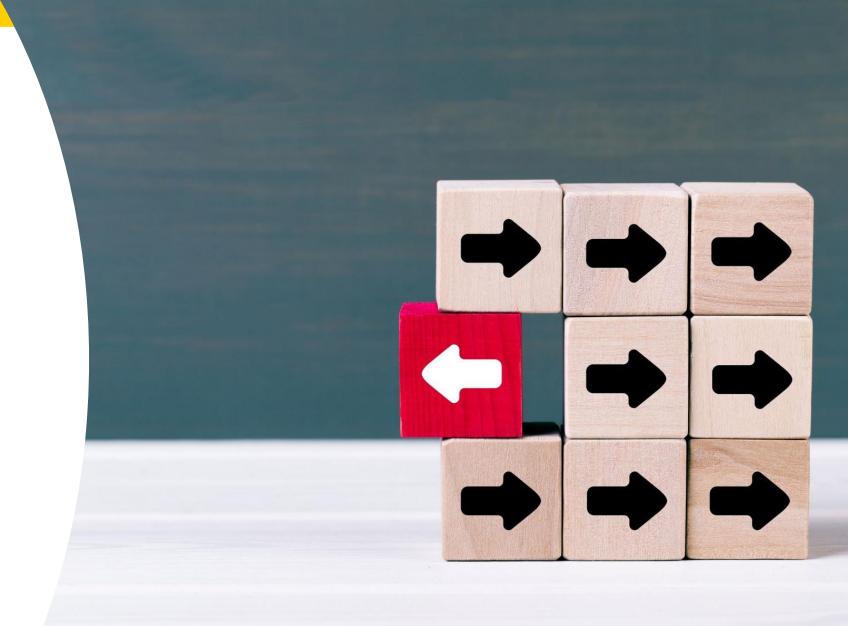
Using a calculator



Harnessing the Power of Al in

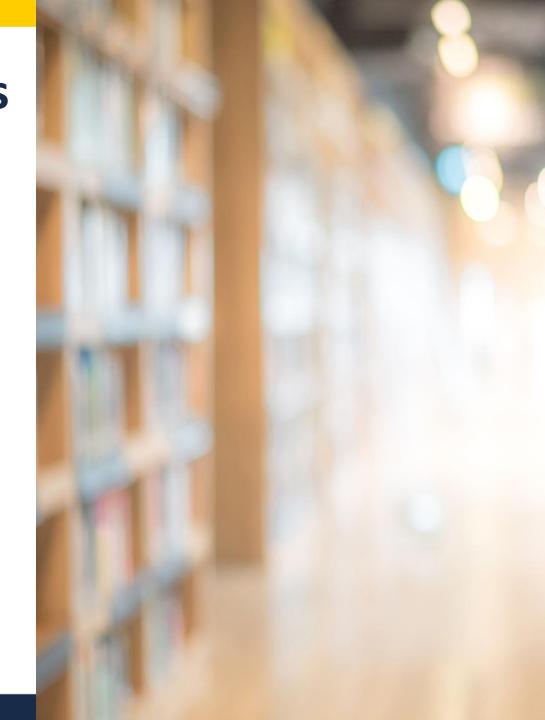
**Higher Education** 

Cognitive Offloading doesn't have to mean cheating



## Cognitive Offloading Becomes Cheating when the action:

- undermines learning objectives
- gives a dishonest impression of knowledge & abilities
- violates the rules for that class/assignment



## So we need to change

## How can we best facilitate & assess learning?

(in the new realities of the 21<sup>st</sup> century where companies and GenAI tools exist to do assessments for students)



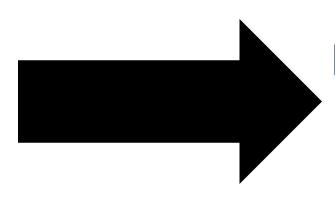
This Photo by Unknown author is licensed under <u>CC BY-SA</u>.

Generative A.I. presents us with the possibility to realign with our values to positively impact student success

## Excellence

Degree integrity

We are assured that



Our graduates have the knowledge and skills (at some level) that our certifications convey

**Student Success** 



## The Opportunities of GenAl

to empower teaching, learning and assessment with integrity

## **Opportunities for Learners**

- Offloading skills not being assessed
- Instant feedback
- Mastery-based assessment
- Individualized assessments
- Study buddy
- Practice material
- 24/7 tutors

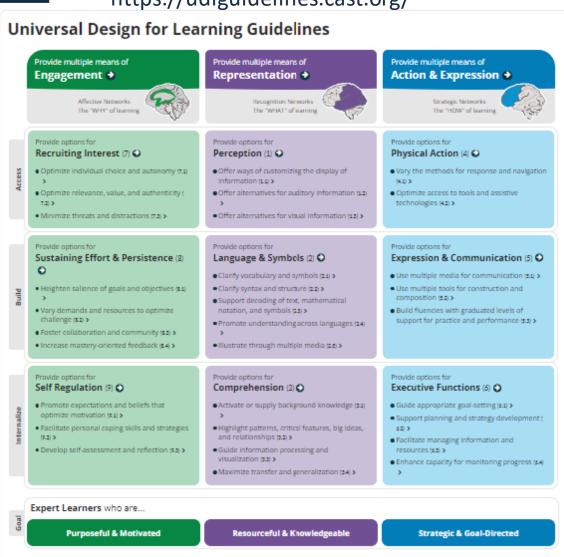


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#### **Opportunities for Teachers**

https://udlguidelines.cast.org/

- Course (re)design
- Rubric creation
- Question generation
- Learning outcomes revision
- Assessment revision
- Class activities generator
- Entry level feedback provider
- High touch student-teacher relationships
- UDL





## Opportunities for Institutions

- Consider program or competency-based level assessments
- Offer 24/7 support
- Integrate "interactive textbooks"
- Track student learning progress
- Faculty as teachers (not administrators)
- CBTF + Mastery based assessment = reduction in equity gaps and increase in integrity\*

https://acelab.berkeley.edu/projects/cbt/

https://zilles.cs.illinois.edu/papers/zilles\_cbtf\_fie\_2018.pdf

https://peer.asee.org/second-chance-testing-as-a-means-of-reducing-students-test-anxiety-and-improving-outcomes

https://zilles.cs.illinois.edu/papers/zilles\_csedu\_cbtf\_2019.pdf

https://zilles.cs.illinois.edu/papers/frequent\_testing\_sigcse23.pdf



## The Barriers of **Leveraging GenAl**

to empower teaching, learning and assessment with integrity

## Barriers to change include...

#### Within GenAl

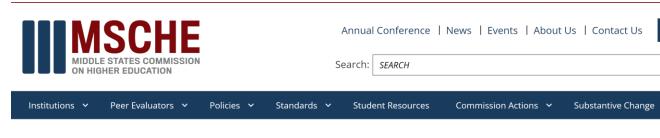
- Hallucinations (it's a B\*llsh!tt3r)
- Undermines honest assessment (if our curriculum and assessments don't change)
- Unethical: Environmental costs, copyright issues, labor issues

#### Within HE Institutions

- Lack of training, support, and time for faculty to rethink pedagogy and assessments
- Lack of focus on degree integrity
- Segmented/absent critical thinking (info, digital, AI literacy; ethical reasoning) curriculum
- Focus on Carnegie credit hour vs CBE creates unhelpful friction

#### Within Accreditation System

- Rethink measures of "student success" (e.g., graduation rates, time to degree, post-grad income)
- (Historically) lack of attention paid to degree/academic integrity



Standards > Standards for Accreditation and Requirements of Affiliation | Fourteenth Edition

#### STANDARDS FOR ACCREDITATION AND REQUIREMENTS OF AFFILIATION | FOURTEENTH EDITION

#### Standard II

#### **Ethics and Integrity**

Ethics and integrity are central, indispensable, and defining hallmarks of effective higher education institutions. In all activities, whether internal or external, an institution must be faithful to its mission, honor its contracts and commitments, adhere to its policies, and represent itself truthfully.

#### Standard III

#### Design and Delivery of the Student Learning Experience

An institution provides students with learning experiences that are characterized by rigor and coherence at all program, certificate, and degree levels, regardless of instructional modality. All learning experiences, regardless of modality, program pace/schedule, level, and setting are consistent with higher education expectations.



## (First Step) **Solutions for Leveraging GenAl**

to empower teaching, learning and assessment with integrity

#### First Step Solutions for Learners

Search this Guide

THE LIBRARY UC San Diego

Research & Collections - Borrow & Request - Computing & Technology - Visit - Get Help About - Hours -

UC San Diego Library / LibGuides / Generative Artificial Intelligence / What is Generative Artificial Intelligence?

## Generative Artificial Intelligence: What is Generative Artificial Intelligence?

What is Generative Artificial Intelligence?

Challenges and Possibilities of Generative Al

Al and Academic Integrity

#### What is Generative Artificial Intelligence?

Generative artificial intelligence (Al) is a category of web-based tools that use algorithms, data, and statistical models to draw reasonable inferences to create content of its own (e,g., text, images, etc.). They are not search engines but rather trained chatbots. Using a prompt, a chatbot strives to fill in the next missing content piece, "what one might expect" (Wolfram).

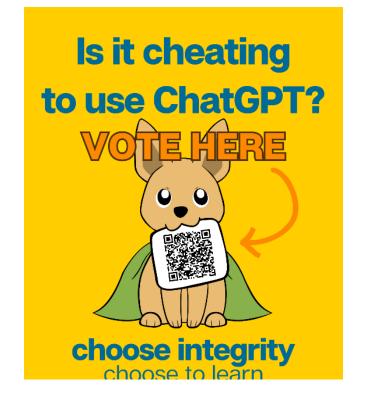
#### A: Sometimes.

Let's think about it.

Search

#### What is ChatGPT?

ChatGPT is just one of the many Generative Artificial Intelligence (GenAI) tools to arrive since November 2022. Others include DALL-E, PhotoMath, Co-Pilot, Caktus, Google Bard, Bing Chat, Github's Co-Pilot, Grammarly Premium, and SnapChat Al. GenAI generates content in response to a prompt provided by a human. GenAI tools were not trained to tell the truth or be factual. They weren't trained to "read", so they have no idea where the output is coming from. In other words, they're only somewhat useful.



## First Step Solutions for Instructors

- Play with the tools
  - Revise learning outcomes
  - Reconsider assessments
    - Assessments of vs for learning
- Communicate with your students about it
  - Ask them what they think!
- Craft a clear Al-use policy
- If going to ban, then secure the assessment
  - If allowing it, teach them how to use it ethically
- Other?



**Crafting Your GenAl & Al Policy: A Guide for Instructors** 

## First Step Solutions for Institutions

- Create a guiding coalition –
   administrators, faculty & students
- Develop guidelines for the community
  - Or principles for practice
- Develop your own (narrowly trained) GPT (so don't worry about data privacy)
- Hire/appoint faculty & staff to be Al-focused
- Provide time, training and support to faculty for course/assessment



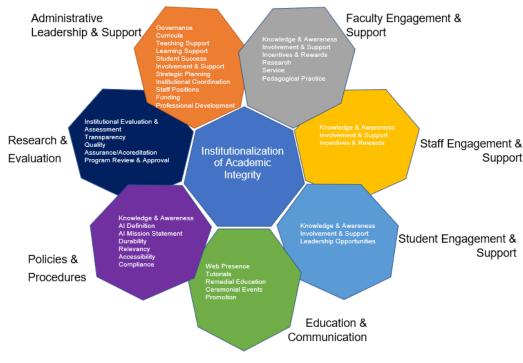
## First Step Solutions for Accreditors

Use AIRS to help institutions
 show their attention to

academic integrity (ARS



 Rethink how we might measure "student success" in the GenAI era International Center for Academic Integrity Academic Integrity Rating System (AIRS)



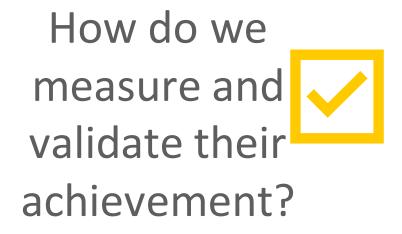
## 3/4 of graduates feel "ill prepared to launch their careers".

https://www.insidehighered.com/opinion/blogs/online-trending-now/2023/10/26/aligning-curriculum-reality-ai-accelerated-times

### If a student graduates, but still lack knowledge & skills, are they successful?

### Durable Skills = Human Competencies

- Civic engagement/social responsibility
- Critical thinking/problem solving
- Digital literacy
- Innovation
- Leadership
- Communication
- Integrity/Ethical Reasoning
- Self-reflection
- Teamwork
- Emotional intelligence



### Foster human-to-human learning environments



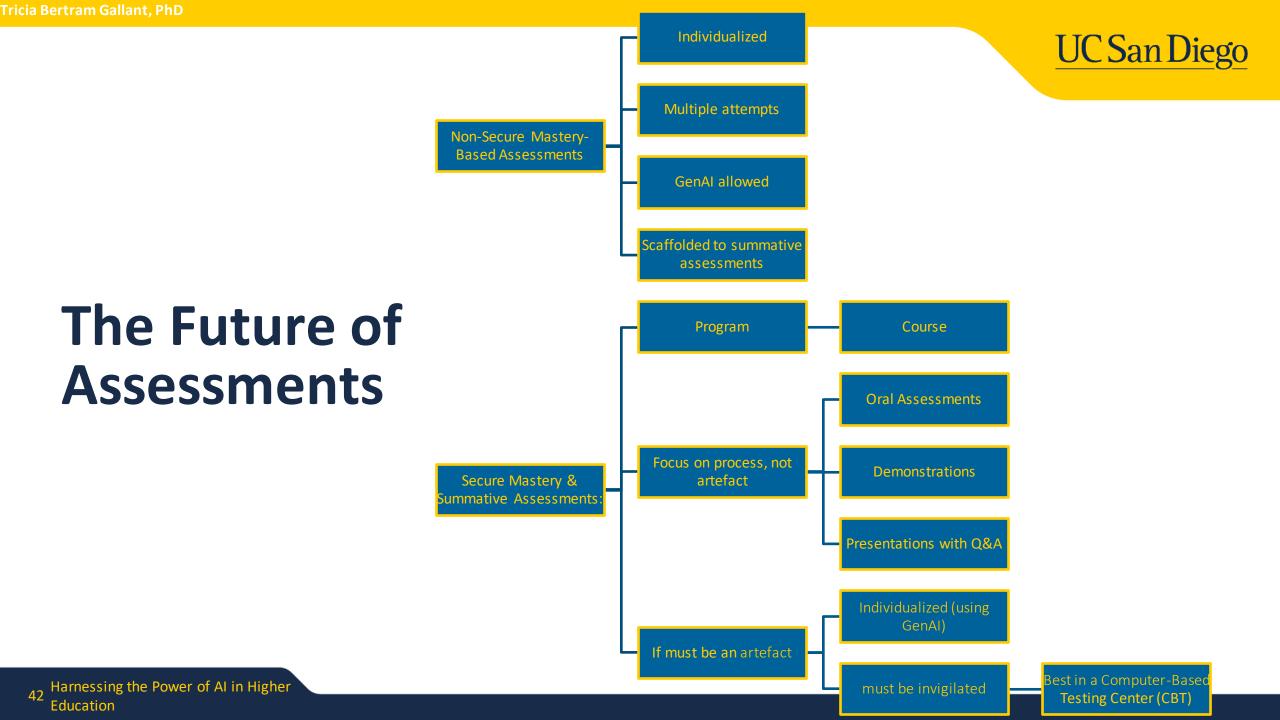
Mentoring/coaching/guiding



Active, Engaged Learning

#### We need to rethink what we do & why

- Do we still teach writing, languages, computer coding, etc?
- What does "original work" look like?
- How do we assess process over product?
- How do we scaffold "cognitive offloading" to GenAl throughout the curriculum?
- What do students need to learn to hold their value over machines?



### In summary...

### We must evolve how we define & measure excellence & student success

# We must adapt how we teach and assess & accredit

### The integrity of our degrees (& our relevancy) depends on it

### Thank you!

**Tricia Bertram Gallant** 

tbg@ucsd.edu

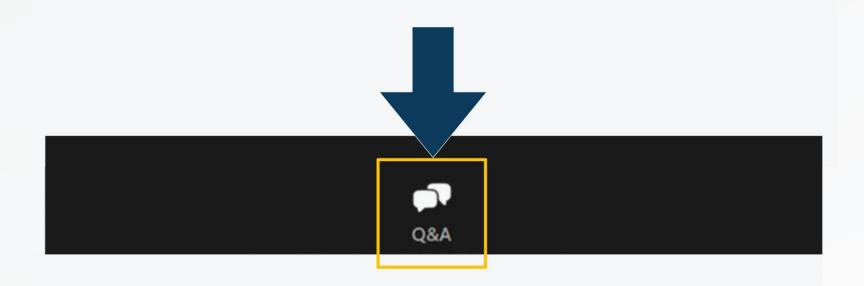
https://academicintegrity.ucsd.edu

https://tritontesting.ucsd.edu



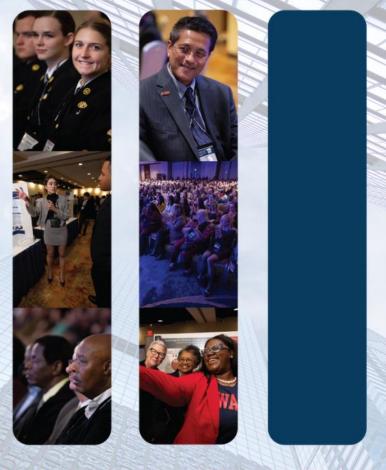


### **Submitting Questions**





#### PROTECTING THE FUTURE: Champions for Higher Education



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