



RUTGERS-NEW BRUNSWICK

Institute for Teaching, Innovation,  
and Inclusive Pedagogy

# *An Overview of Generative AI in Teaching & Learning Environments*

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December 6, 2024

Use QR code to access presentation files





**RUTGERS–NEW BRUNSWICK**

# Institute for Teaching, Innovation, and Inclusive Pedagogy

***A hub advancing instruction that fosters student learning and academic thriving***

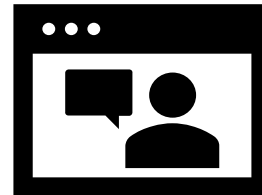
- Resources on teaching
- Communities of practice
- Confidential consultations
- Formative classroom observations
- Course design support
- Assignment design support
- Teaching institutes
- Teaching symposia
- Teaching fellowships & grants
- Support for research on teaching
- Community book reads
- And more...



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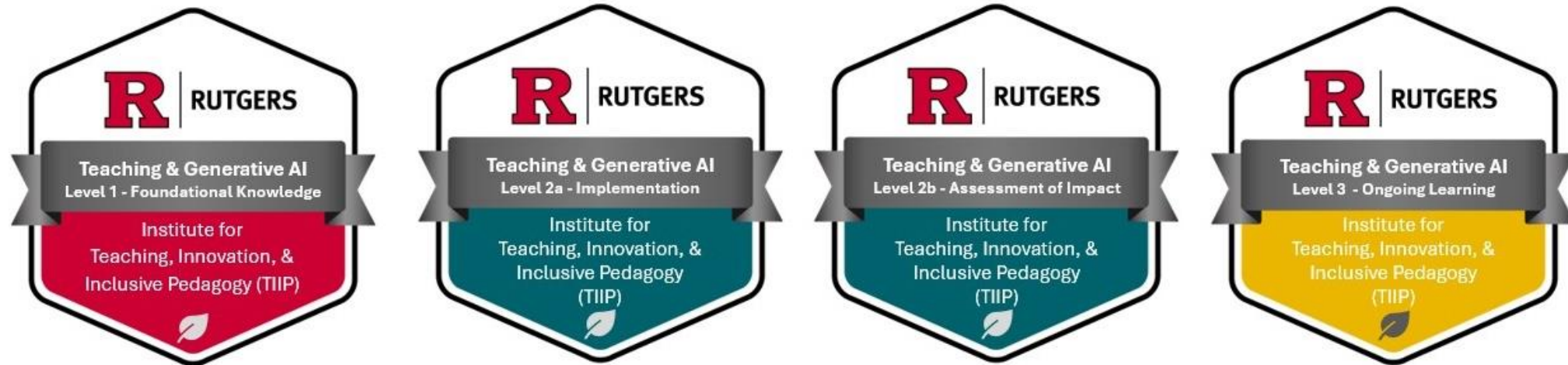
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# Teaching & Generative AI Pathways

You can start or continue your journey today! This conference can count for Competency 1 of the Traditional Pathway



Two Pathways: **Traditional** and **Design Justice Labs**

# Please complete the poll!

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## What is your experience with GenAI?

- Use the QR code, or
- Go to [menti.com](https://menti.com) and enter the code: **7189 0823**





# What is GenAI?

Models that are trained on large datasets and use algorithms to predict what comes next, generating human-like text, images, audio, and more (*i.e.* outputs).



What can I help with?

Message ChatGPT



# Sample Use Cases

## **Students**

- Brainstorming
- Feedback (e.g. improving writing)
- Summarizing course material
- Performing research
- Creating lecture outlines
- Developing flashcards and study questions
- Improving logic by producing counterarguments
- Image generation

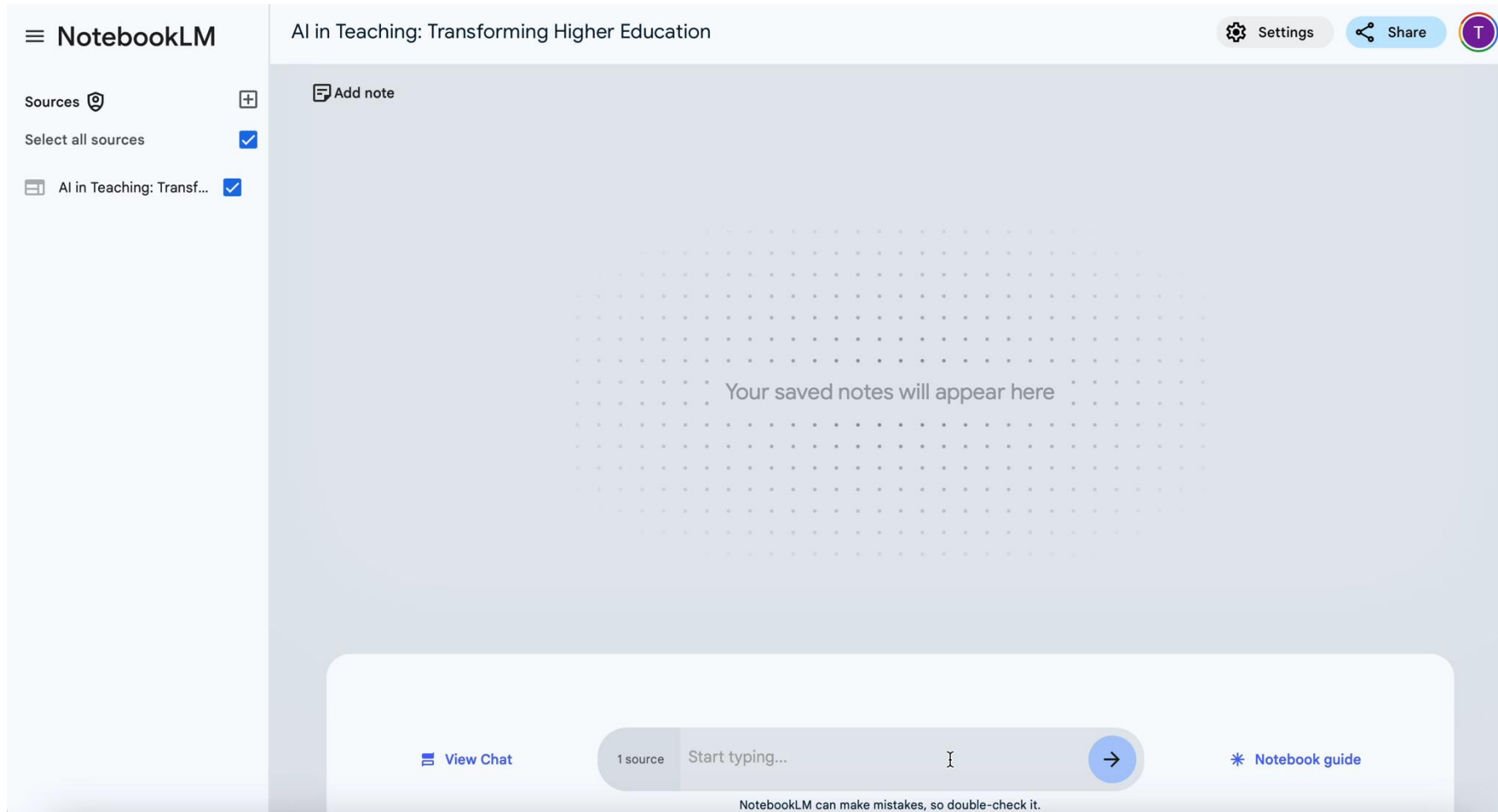
## **Instructors**

- Course planning
- Applying teaching and learning frameworks to course design
- Lesson planning
- Course-specific chatbots
- Developing students' literacy
- Course assignments (e.g. role play, analysis)
- Disciplinary applications



# Demos & Examples

# Creating Study Materials (Notebook LM)





# Creating Flashcards (ChatGPT)

What can I help with?

Message ChatGPT



# Image Generation (Dream Lab in Canva)

DREAM LAB ✨

500



## What will you imagine today?

Describe the image in a few words...

Create


Add image | Smart | 1:1

**Start inspired.  
With a few of  
these ideas.**



A majestic swan glides effortlessly across the misty surface...

Use



?

# Summarizing (ChatPDF)

#1 PDF Chat AI **Original**

Q's answered every day **1,000,000+**

Gen AI apps of 2024 **Top 50**

## Chat with any PDF

Join millions of students, researchers and professionals to instantly answer questions and understand research with AI

DRAG + DROP YOUR PDF FILE HERE

Click to upload, or drag PDF here

Upload PDF

# Research (Perplexity)

The screenshot shows the Perplexity AI website interface. At the top, the browser address bar displays "perplexity.ai". The left sidebar contains the Perplexity logo and navigation links: "New Thread", "Home", "Discover", "Spaces", and "Library". The main content area features a central message: "You're on our free plan. Upgrade" with a link to "Upgrade". Below this is the heading "Ask anything" and a search input field with the placeholder text "Search the internet...". The search field includes a "Focus" button, an "Attach" button, and a "Pro" toggle switch. Below the search field are four suggested search topics: "Top vacuums to clean up pet hair", "Mental health apps 2024", "Registration deadlines for the US election", and "Market size of the creator economy". At the bottom left, there is a "Try Pro" section with the text "Upgrade for image upload, smarter AI, and more Pro Search." and a "Learn More" button.

perplexity

New Thread

Home

Discover

Spaces

Library

You're on our free plan. [Upgrade](#)

## Ask anything

Search the internet...

Office on the web Frame

Focus Attach Pro

Top vacuums to clean up pet hair

Mental health apps 2024

Registration deadlines for the US election

Market size of the creator economy

**Try Pro**  
Upgrade for image upload, smarter AI, and more Pro Search.  
[Learn More](#)

# Science Research (Scispace)



## The Fastest Research Platform Ever

All-in-one AI tools for students and researchers.

Discover Papers for your research



Try asking or searching for:

- Q [How does climate change impact biodiversity?](#)
- Q [Why are aging Covid patients more susceptible to severe complications?](#)
- Q [How does social media affect the college selection process?](#)
- Q [What are the interesting theories about dark matter and dark energy?](#)
- Q [What is the significance of higher-dimensional algebra?](#)

# Instructor-Made GPTs: LLM Proof Assignment (ChatGPT)

How do I GPT Proof this assignment?



To help you GPT-proof the assignment, I'll need to see the specific task you're assigning to students. Please share the assignment details, including the format (e.g., essay, discussion board post, project), the objectives, and any relevant prompts or instructions.

Once I see the assignment, I'll:

1. **Evaluate its GPT vulnerability** using the HAIDI scale (1–10). This shows how easy or difficult it would be for an LLM to complete.
2. **Suggest redesign strategies** to promote originality and critical thinking, ensuring that students engage deeply with the material in ways that resist AI-generated responses.

Feel free to share as much or as little as you'd like—I'll adapt my advice accordingly!

# Instructor-Made GPTs: GenAI Class Policy Generator ([ChatGPT](#))



## GenAI Class Policy/Teaching Philosophy Generator

By Autumn L Caines ✉

This bot helps teachers articulate their stance on GenAI for their classes. Ask the bot to help you generate a statement from scratch or give it your current statement and ask it to help you update it.

Help me develop a GenAI class policy statement

I'm not sure how I feel about GenAI in...

I will paste in my current statement and ...

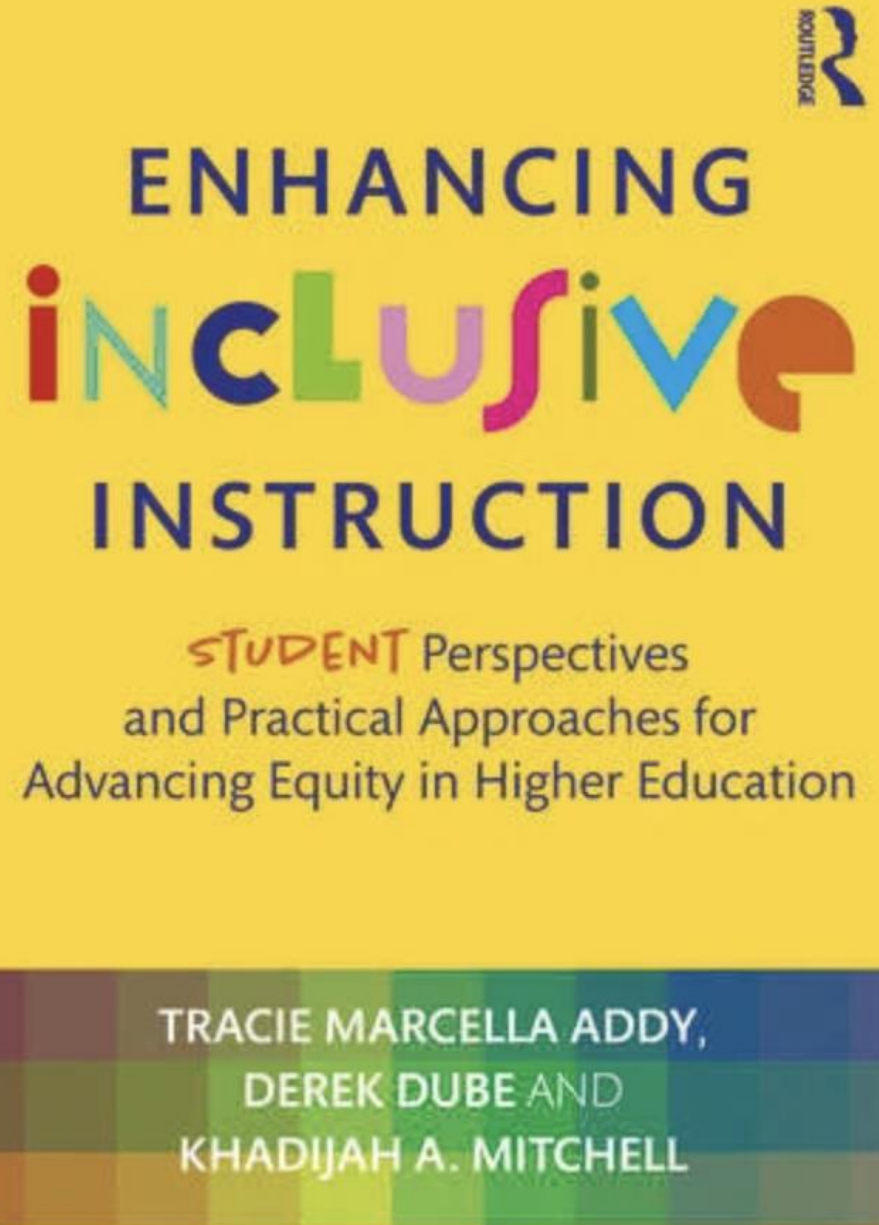
I'm unhappy with my current statement can...

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# Fostering More Inclusive Classrooms with GenAI

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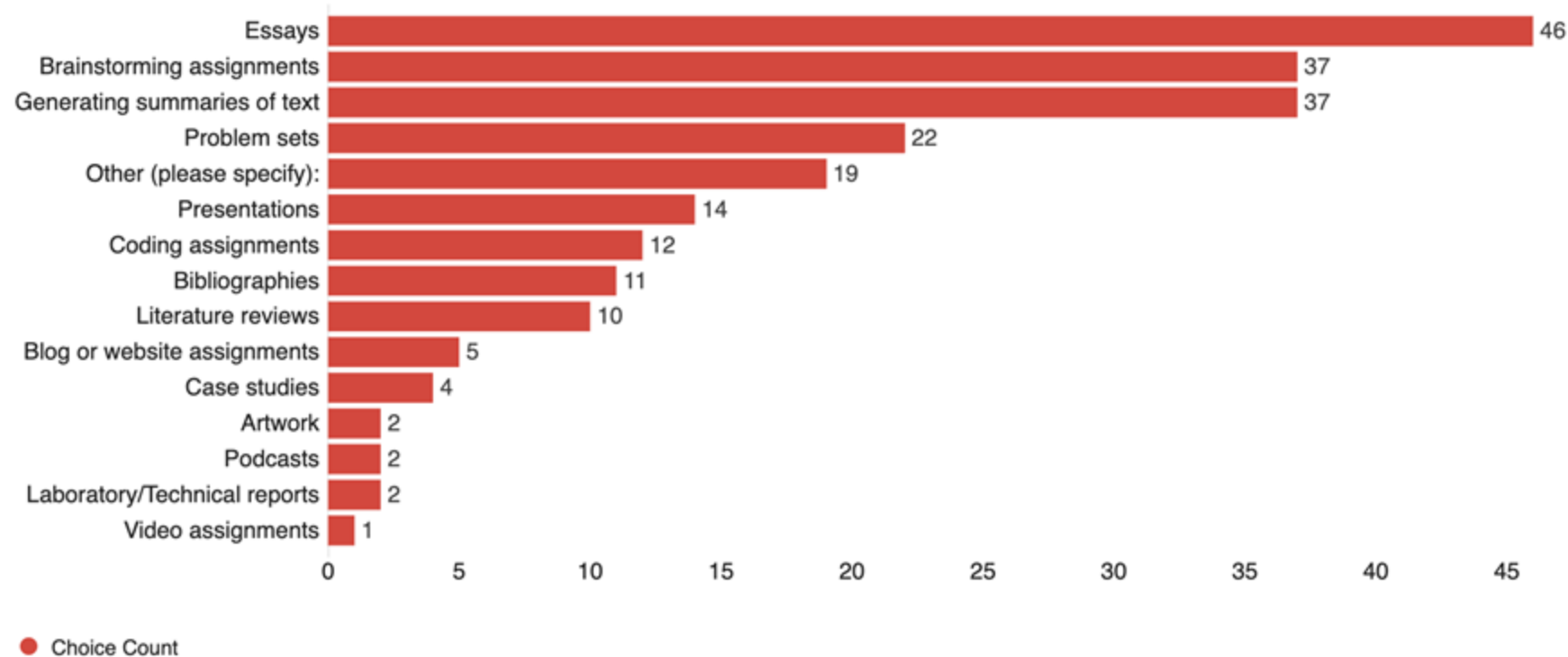
- Supplemental course-based chatbots that can enhance the learning of students of diverse backgrounds and experiences
- Course design queries applying reputable teaching and learning frameworks (e.g. Universal Design for Learning)
- Support for neurodivergent students and students with disabilities
- Writing feedback support for multilingual students



Access book at Rutgers



# How Students Report Using GenAI in Courses



Note: Research study conducted at a college in the eastern United States (n = 103). Study cited in: Addy, T., Kang, T., Laquintano, T., & Dietrich, V. (2023). Who Benefits and Who is Excluded?: Transformative Learning, Equity, and Generative Artificial Intelligence. *Journal of Transformative Learning*, 10(2), 92-103.

# Please complete the poll!

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**Which GenAI approaches  
presented do you find  
the most promising for  
teaching and learning?**

- Use the QR code, or
- Go to [menti.com](https://menti.com) and enter the  
code: **7189 0823**



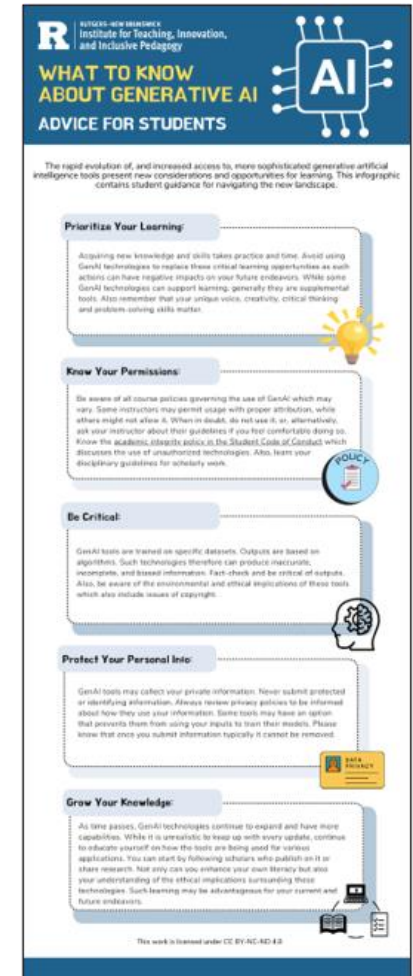
# Ethical & Other Concerns

- Bias
- Inaccurate outputs
- Intellectual property and copyright
- Academic integrity
- Energy consumption
- Student overreliance and the hindrance of learning
- Privacy
- Company regulation
- Algorithmic epistemic injustice ("produce or amplify misinformation, perpetuate representational harm, and create epistemic inequities, particularly in multilingual contexts" Kay, Kasirzadeh, & Mohamed (2024))
- Labor exploitation



# Recommended Teaching Practices

- Developing or co-creating GenAI course policies and having conversations with students
- Exercising caution with GenAI detectors
- Enhancing students' GenAI literacy
- If permitting GenAI, requiring usage disclosure, the submission of prompts and outputs, and reflections on AI collaboration
- Scaffolding larger assignments and monitoring student progress
- Utilizing alternatives to traditional writing assignments
- Using varied methods to assess student understanding (e.g. written, oral, etc.)



# Resources



TEACHING & GENAI  
PATHWAYS



TIIP WEBSITE  
RESOURCES



GENAI STUDENT  
INFOGRAPHIC

# Upcoming Sessions

**The Impacts of GenAI on Learning: Early Findings & Implications for Teaching (virtual)**

Tuesday, January 7, 10 – 11 am

[REGISTER](#)

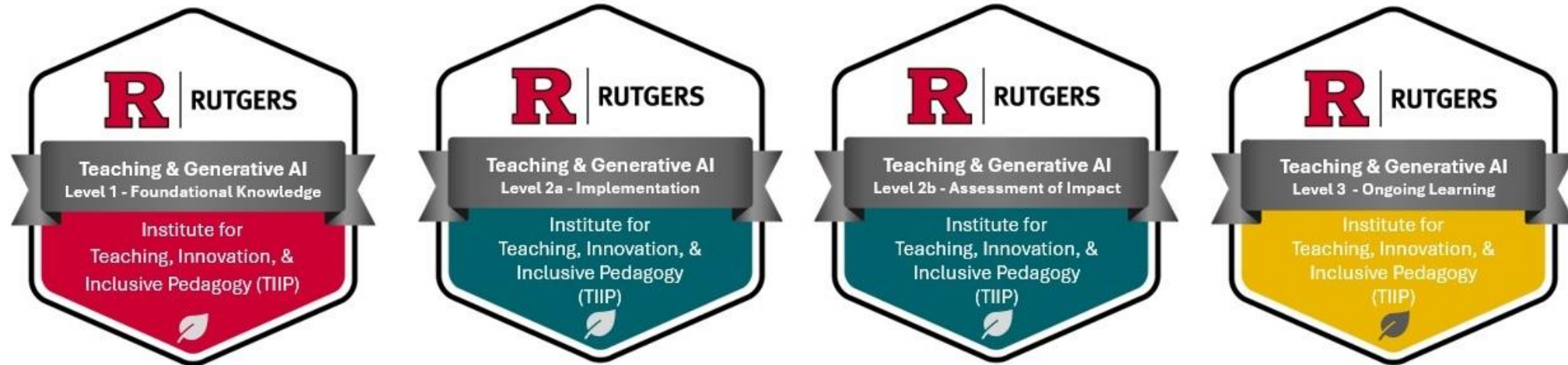
**Generative AI Explorations: LearnLM (virtual)**

Wednesday, January 15, 11:30 am – 12:30 pm

[REGISTER](#)

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Two Pathways: **Traditional** and **Design Justice Labs**

Concluding  
Remarks via  
NotebookLM





Enjoy the rest of the conference!

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