



MISPH, Maternal and Child Health

Using genAI to re-imagine learning activities

February 8, 2024

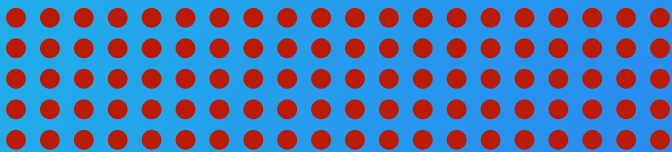
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LIBRARY.GWU.EDU

Where I stand (today)

Focus on addressing the elevation of digital and AI fluencies at LAI. Partner with faculty and staff across GWU.

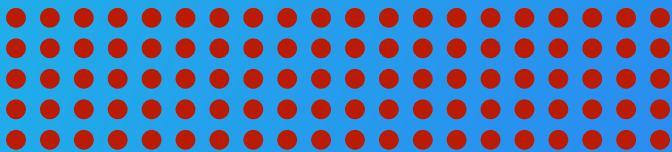
- Human-AI collaboration is the future of learning and work.
- AI is helpful, insightful, and fun.
- AI calls us to re-think how we communicate the 'value of learning'.
- AI calls us to guide learners on effective, ethical, and responsible use.



Objectives for today

- Provide foundations for thinking about and working with genAI in pedagogy.
- Define and demonstrate communications strategies with genAI tools (i.e. ChatGPT).
- Review current instructional approaches and show a partnered approach with genAI tools.

Note: The capabilities of genAI tools are rapidly evolving and what you see today, may be very different next month.





Foundation: genAI and pedagogy

Shortly examining what is possible in teaching and learning with genAI.

Calls us to revise and reimagine

Generative Artificial Intelligence (genAI) helps us to look again at how we are teaching and how our students are learning.

“Revision literally means to “see again”, to look at something from a fresh, critical perspective. It is an ongoing process of rethinking the paper: reconsidering your arguments, reviewing your evidence, refining your purpose, reorganizing your presentation, reviving stale prose.”

University of North Carolina, The Writing Center

<https://writingcenter.unc.edu/tips-and-tools/revising-drafts/>

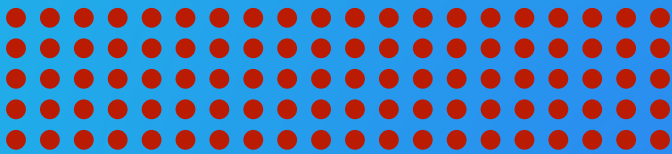


Self-reflect: Teachers and learners

We should pursue **digital and AI literacies**.

- Knowledge of when, where, why and how to use technologies.
- Knowledge of what is available and how it is evolving.
- Knowledge of how to use for generating humanistic outputs.

We should build our knowledge on the **capabilities** of genAI.



Explore capabilities

Think about what can enhance the learning experience – helping students to engage deeper and use the time to get more from the course.

Think about what can help you highlight effective, ethical, and responsible use with AI allowing everyone to learn more.

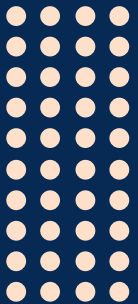
Example (current) capabilities →→→

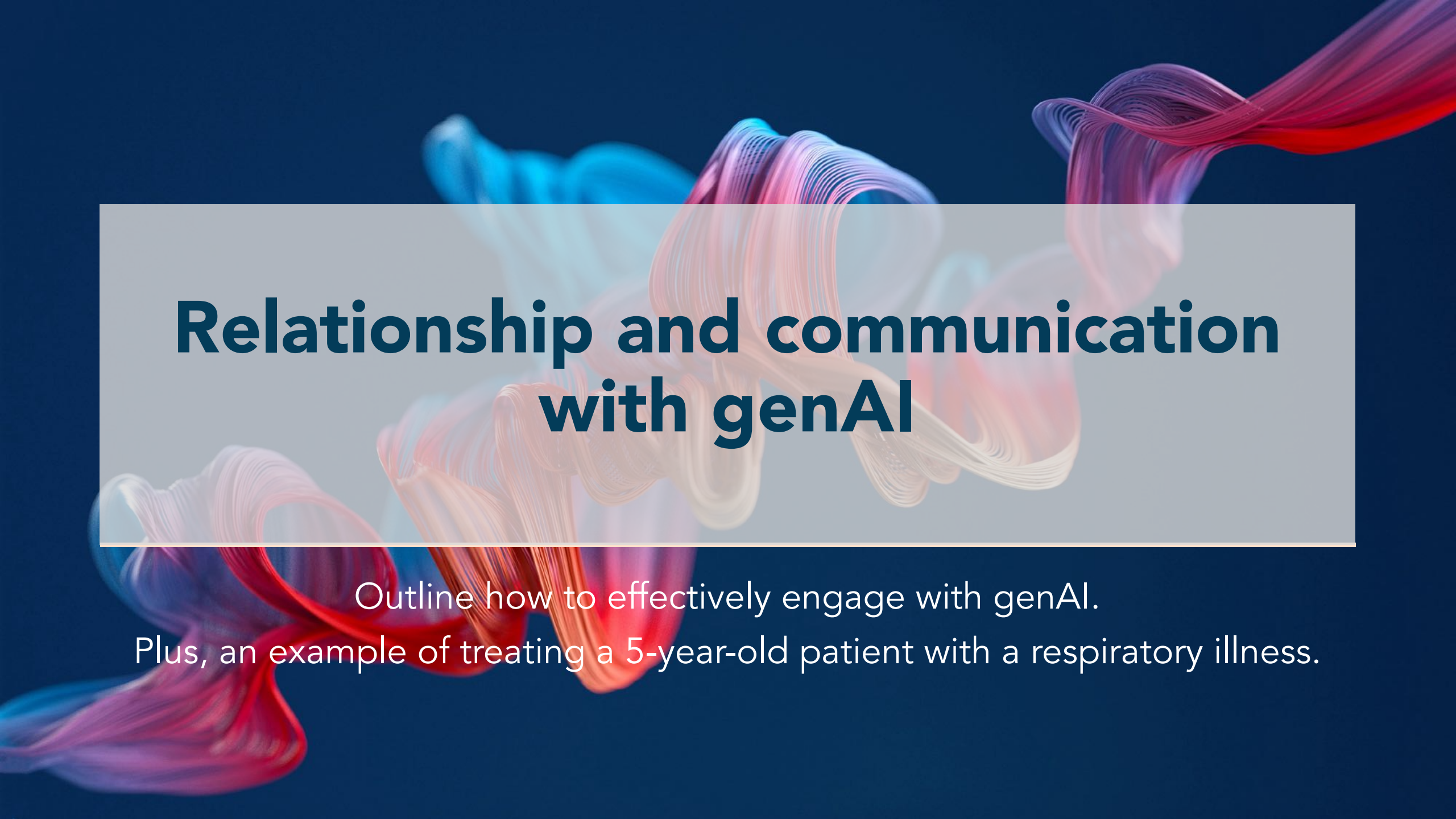
- Give an explanation to new concepts.
- Create assessment rubrics.
- Generate outlines for presentation.
- Generate visuals – creative and realistic.
- Creation of synthetic data.
- Qualitative data analysis.
- Summaries and highlights of articles.
- Alternative perspectives and arguments.
- Review of grammar, vocabulary, sentence structure, and clarity.
- Paper titles and section headers.
- Creative thinking and learning design.
- Exploration of potential sources/references.



Ways to use genAI in teaching and learning

General	Summarizing large amounts of text.	Personalized learning: A roadmap for learning X.	Mapping alternative steps to a solution.	Identification of data visualization strategies.
Learning and media design	Drafting learning objectives.	Generating and/or revising a weekly plan.	Brainstorming potential learning activities.	Drafting visual designs and media scripts.
Assessment and discussion design	Creating questions and answers.	Generating explanations why X is correct.	Draft questions that involve thorough explanation.	Generate counter arguments.
Higher order thinking engagement	Create initial drafts for evaluation.	Refine questions as they are input with rational.	Pose a series of questions to gather information and create a solution.	Generate practice problems and scenarios.





Relationship and communication with genAI

Outline how to effectively engage with genAI.
Plus, an example of treating a 5-year-old patient with a respiratory illness.

Decide on your relationship with genAI

Partner or collaborator

def: either of a pair of people engaged together in the same activity

def: a person who works jointly on an activity or project; an associate

Assistant

def: a person who ranks below a senior person

Tool

def: a device or implement, especially one held in the hand, used to carry out a particular function

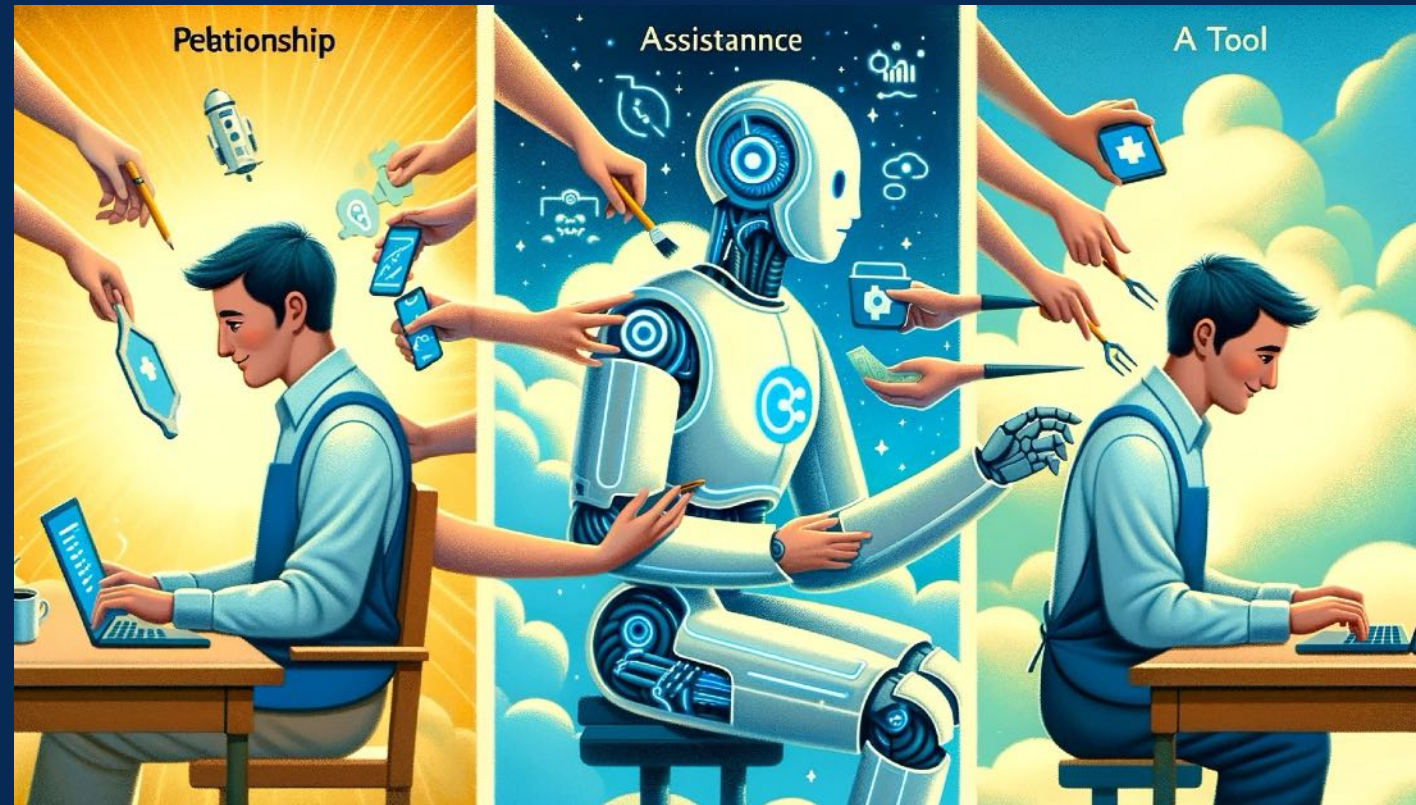


Note: This matters because of the language we use.

Don't worry, ChatGPT doesn't know yet either

Prompt:

"I want to help some people conceptualize how we work together. I see you as a partner. But some who don't know you, see you as their assistant or even a tool. Going from left to right, please create a 3-panel image that shows 1) you and I as partners, 2) you as my assistant, and 3) you as a tool to a human."



Communicating with genAI



genAI



Iterate

- Refine and ask your questions more than once.
- Change your style of asking questions. Consider the assigned persona.
- Just as in writing... walk away, restructure your ideas, and try again.

General guidelines

- Tell it the persona you need it to be. (Don't need to do this with GPTs.)
- State the topic clearly.
- Give context that is specific and concrete.
- Define the output you expect. (Quantify.)
- For large queries, chunk into smaller parts. (Refine along the way.)
- When in doubt, ask for an explanation.

4 strategies

Scan the QR code with you phone or input the link to see my discussion with 'Medical Expert GPT'.

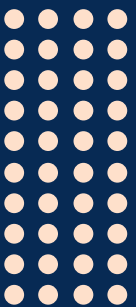
Date of conversation: February 1, 2024.

URL option:

<http://tinyurl.com/med-expert-gpt>

Limitations:

- Human experience and judgement
- Questionable domain knowledge
- No radiological study



Strategies for working with genAI – 1 of 4

Dig deeper



genAI



About

Ask the AI to help you explore, outline, question, and structure ideas.

ChatGPT-4

Medical Expert GPT

“Please list for me different ways that I can differentiate pneumonia in a child from bronchitis and pertussis. Present a table that compares the symptoms of the 3 diseases with ways I can approach making a diagnosis below.”

Strategies for working with genAI – 2 of 4

Think broader



genAI



About

Ask the AI to help you explore alternative perspectives, refine your questions, collect information from you on what you're looking for.

ChatGPT-4

Medical Expert GPT

"In addition to using antibiotics to treat pneumonia, bronchitis and pertussis, what are some alternative approaches that are used in non-western countries? Please show this in a table with the diseases as rows and global locations as columns."

Strategies for working with genAI – 3 of 4

Identify solutions/pathways



genAI



About

Ask the AI to help you identify and work through technical bits of a problem.

ChatGPT-4

Medical Expert GPT

"I have a child patient who is 5 years old and has presented with symptoms in alignment with pneumonia as you've provided above. I've taken an X-ray and it clearly shows pneumonia. What would you recommend as a treatment plan that includes antibiotics? Please outline at least 2 approaches."

Strategies for working with genAI – 4 of 4

Examine reasoning



genAI



About

Ask the AI to explain its reasoning for a given solution.

ChatGPT-4

Medical Expert GPT

"In your treatment plan you gave me an approach for outpatient treatment and inpatient treatment. This was very helpful. My patient is somewhat borderline at this point. What criteria would you recommend to make a determination between the 2 treatments? Please also provide me your rational for each criteria."

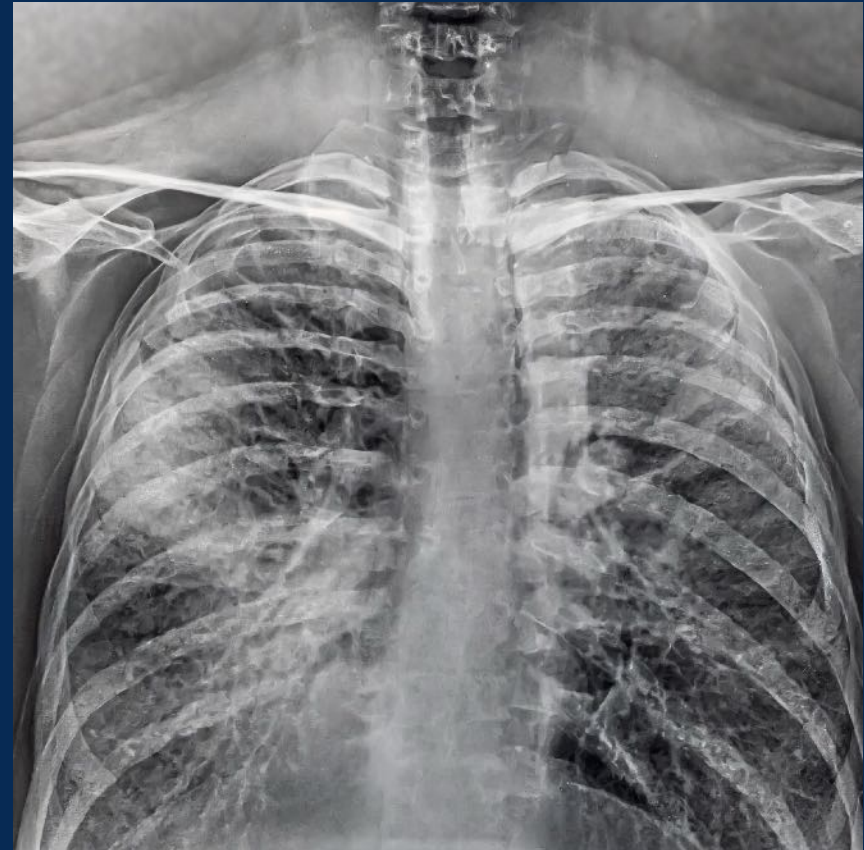
Capabilities:

Chest x-ray of pneumonia in human lungs

OpenAI DALL-E



Adobe Firefly





Activity: Revise and reimagine

Ideating a new approach with 2 MCH courses.

Combining efforts



Relationship

- Partner or collaborator
- Assistant
- Tool

Interaction targets

- Enable depth of exploration
- Leverage to enhance communications (text and visual)
- Humanistic outputs

Q: How does this perception change your language?

Today: Focus on 2 courses

PubH 6550.10

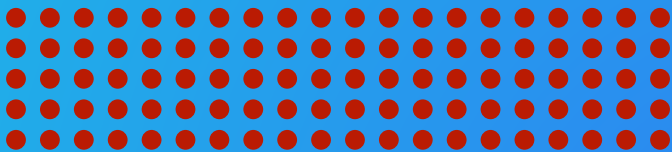
Maternal and Child Health I: Foundations

- Karen A. McDonnell, Ph.D.
- Fall 2023

PubH 6553.10

Adolescent Health and Development

- Monica S. Ruiz, Ph.D., MPH
- Spring 2024



Course learning activities



PubH 6550.10

Active class participation (10%)
In the news (10%)
Upload introduction slide (5%)
Concept paper (5%)
Draft paper (5%)
Concept paper peer review (5%)
Final paper peer review (5%)
Final paper (25%)
Small group project (30%)

PubH 6553.10

Class participation (10%)
Discussion:
 Commentary post (10%)
 Response post (10%)
Article presentation/discussion (20%)
Final project:
 Final paper (30%)
 Group presentation (20%)

Course learning activities – potential genAI



PubH 6550.10

Active class participation (10%)

In the news (10%)

Upload introduction slide (5%)

Concept paper (5%)

Draft paper (5%)

Concept paper peer review (5%)

Final paper peer review (5%)

Final paper (25%)

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PubH 6553.10

Class participation (10%)

Discussion:

Commentary post (10%)

Response post (10%)

Article presentation/discussion (20%)

Final project:

Final paper (30%)

Group presentation (20%)

Example: Article and presentation

Both courses seek the written analysis and presentation of an article. (One calls for a current event and one calls for research.)

We'll blend these activities and leverage genAI in discussion, idea organization, and communications.

We'll take the viewpoint of genAI as a learning partner.

We'll do these things →→

- See alternative perspectives
- Gather insights
- Witness short-comings
- Draft a version of organized thoughts
- Generate ideas for communicating (textually and visually)

Activity: Craft a presentation and discussion

- 1) Discuss the article with ChatPDF and/or ChatGPT.
- 2) Converse with ChatGPT about perspectives on the topic.
- 3) Generate a draft presentation outline with ChatGPT.
- 4) Generate draft discussion questions with ChatGPT.
- 5) Create visual for a presentation with Adobe Firefly or ChatGPT.
- 6) Build a presentation with Adobe Express.

ChatGPT-4, Consensus GPT

Prompt: I need your help reviewing this article for a class and presentation. Can you confirm the title of this article I've given you?

Prompt: I am reviewing this article for a lecture on understanding risk and resilience, and the impact of families and peer networks on health and behavior. What can you tell me about this article knowing this?

Prompt: Now, I need to quickly identify the dependent and independent variables in this article/study. Can you help me to identify those?

Prompt: Interesting, what sorts of characteristics of resilience-focused interventions were described?

PubH 6553.10 article: [Systematic Review of Universal Resilience-Focused Interventions Targeting Child and Adolescent Mental Health in the School Setting](#)

Activity: Craft a presentation and discussion

- 1) Discuss the article with ChatPDF and/or ChatGPT
- 2) **Converse with ChatGPT about perspectives on the topic.**
- 3) Generate a draft presentation outline with ChatGPT.
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ChatGPT-4, Consensus GPT

- Prompt: One thing that I am interested in is different perspective on this topic. Did the article mention multiple perspectives? If so, what were they?
- Prompt: Well, I am curious. What can you tell me about 'global perspectives on resilience in children and youth' in school settings?

<error> ... suggested I explore articles on my own.

- Prompt: Will do. It would help me a bit to know what resilience types I may explore. Did the article describe types of resilience in children?

Activity: Craft a presentation and discussion

- 1) Discuss the article with ChatPDF and/or ChatGPT.
- 2) Converse with ChatGPT about perspectives on the topic.
- 3) **Generate a draft presentation outline with ChatGPT.**
- 4) Generate draft discussion questions with ChatGPT.
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- 6) Build a presentation with Adobe Express.

ChatGPT-4, Consensus GPT

- Prompt: Now, I need to think about how I may present this paper to my classmates. It is a graduate level course for future medical practitioners. At maximum, my presentation can only be 15 minutes. In addition to providing an overview, a secondary goal of this presentation will be to tell about the relationship between the dependent and independent variables. Could you please draft me a presentation outline?

Activity: Craft a presentation and discussion

- 1) Discuss the article with ChatPDF and/or ChatGPT.
- 2) Converse with ChatGPT about perspectives on the topic.
- 3) Generate a draft presentation outline with ChatGPT.
- 4) **Generate draft discussion questions with ChatGPT.**
- 5) Create visual for a presentation with Adobe Firefly or ChatGPT.
- 6) Build a presentation with Adobe Express.

ChatGPT-4, Consensus GPT

- Prompt: This is a useful outline. I can work with that. Following the presentation, I will lead a short 15-minute discussion. For this, I'd like to have at least 3 discussion questions. I have reviewed the discussion section of the article and noticed that the authors highlighted shortcomings in the gender analysis and long-term follow-up in school-based intervention studies. Could you draft for me a couple of discussion questions focused on these shortcomings, as well as provide me with one more question for the class?



Activity: Craft a presentation and discussion

- 1) Discuss the article with ChatPDF and/or ChatGPT.
- 2) Converse with ChatGPT about perspectives on the topic.
- 3) Generate a draft presentation outline with ChatGPT.
- 4) Generate draft discussion questions with ChatGPT.
- 5) Create visual for a presentation with Adobe Firefly or ChatGPT.
- 6) Build a presentation with Adobe Express.

ChatGPT-4, Consensus GPT (DALL-E)

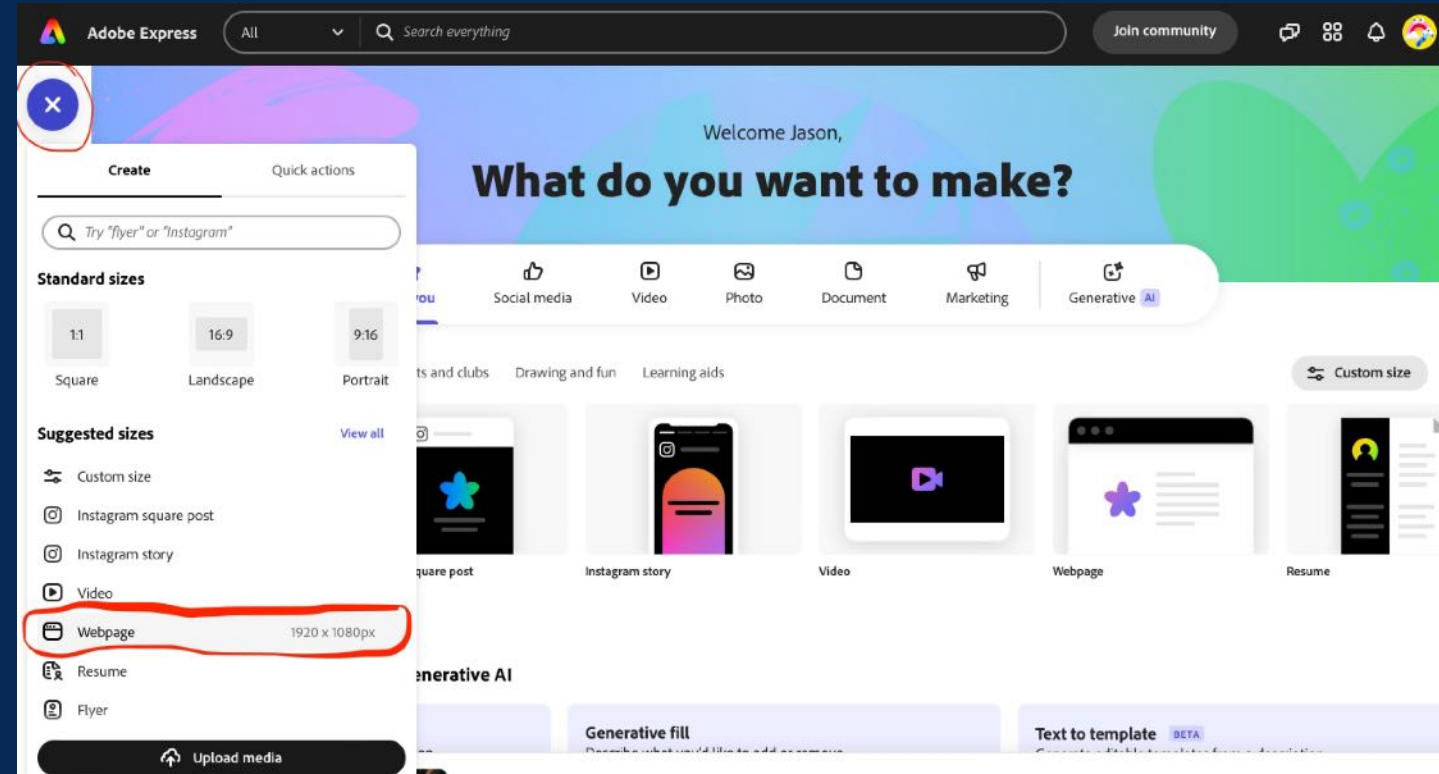
- Prompt: I'd like to make a couple of images for my presentation. Using the presentation outline that you gave me, I'd like to have 1 for resilience-focused interventions and 1 for mental health outcomes. First, can you produce an image that represents resilience-focused interventions?
- Prompt: Very nice. Now can you create an image for mental health outcomes?

Adobe Firefly

- Prompt: Resilience-focused interventions for diverse adolescents in a school setting
- Prompt: Mental health outcomes among ethnically diverse adolescents

Activity: Craft a presentation and discussion

- 1) Discuss the article with ChatPDF and/or ChatGPT.
- 2) Converse with ChatGPT about perspectives on the topic.
- 3) Generate a draft presentation outline with ChatGPT.
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Idea: Test and learn with your students



Engage learners on genAI

- Control group: Traditional – All human work
- Test group: Partnered human-AI work

Two potential approaches

- All students do 1 approach before the other.
- Alternate approaches with students.

Give bonus points for feedback on experience.