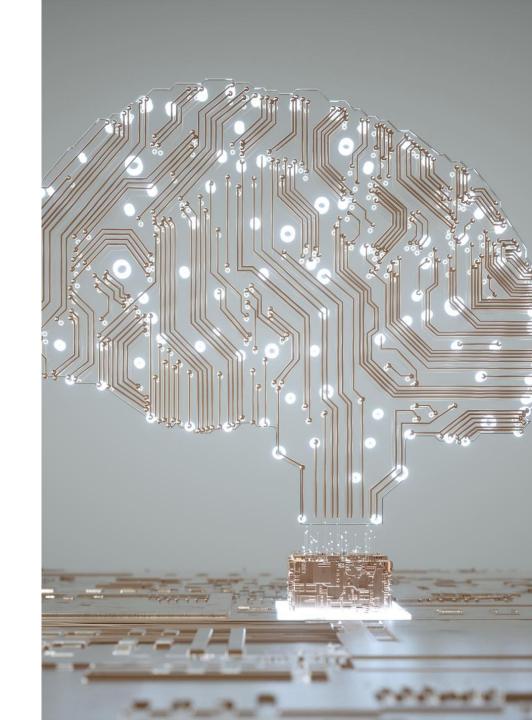


#### **AGENDA**

- Discover Generative Al In Brief (GenAl)/ChatGPT
- Test Your Knowledge
- Conceptualize Capabilities And Cautions
- Be Safe
- Be Ethical
- Be Effective
- Find Resources For Further Learning
- Ask Questions/Make Comments

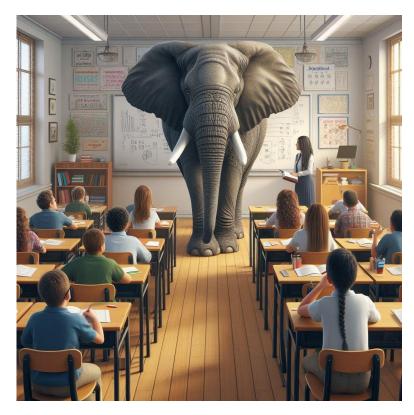
#### WHAT IS GENERATIVE AI (GenAI)?

- Based on Large Language Models (LLMs), GenAl is Artificial Intelligence that uses training it has received to generate new content that can pass as human-generated.
- Tech Republic defines it simply and well: Generative Al are "machine learning systems capable of generating text, images, code or other types of content, often in response to a prompt entered by a user."
- ChatGPT is known as a transformer-based model (Generative Pre-Trained Transformer). Transformers are commonly used for Q&A "bots," text summarization, content generation, and search. There are many, many more models, such as Claude, Gemini, CoPilot, custom GPTs, and on and on it goes.



## **ChatGPT: THE ELEPHANT IN THE CLASSROOM**

#### **REALITY SINCE NOVEMBER 2022**



Source: A collaboration between me and Bing Designer powered by DALL-E 3.0

#### THE DISRUPTION CONTINUES

#### **Teacher:**

- "Maybe if I ignore it, it will disappear."
- "I use it for lesson planning, student examples, and letters to parents, but I don't want my students using it!"
- "I'm excited about allowing my students to use this, but I don't know if I'm permitted."

#### **Student:**

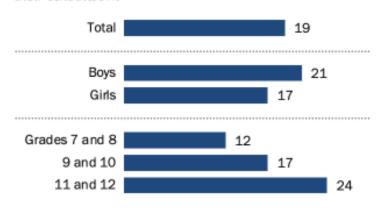
- "I use this for so many other things already. Why can't I use it in school?"
- "If I use it, will I get in trouble?"
- "I'm going to use it. My teacher will never know."

#### AI USAGE IN EDUCATION 2023 - 2024: EVERYONE'S DOING IT!

Fall 2023 (13- to 17-year-olds)

#### Among teens who know of ChatGPT, 19% say they've used it for schoolwork

Among U.S. teens ages 13 to 17 who have heard about ChatGPT, % who say they have ever used it to help with their schoolwork

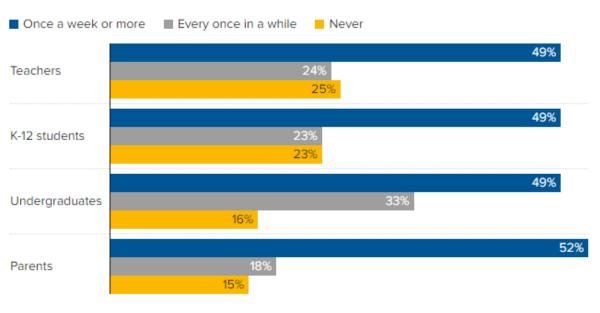


Note: Those who did not give an answer are not shown. Source: Survey of U.S. teens ages 13 to 17 conducted Sept. 26-Oct. 23, 2023.

PEW RESEARCH CENTER

Spring 2024 (Students, Teachers, Parents)

About half of teachers, students and parents are using Al chatbots at least once a week for work or school



Source: Impact Research

Online survey of 4,007 teachers, parents and students in the U.S. conducted May 7-15, 2024



# TEST YOUR KNOWLEDGE OF GenAl LIKE ChatGPT

We know you're using it, but do you understand it!

## Let's Take a Short Quiz.

 Devised in part by educator and AI enthusiast, Nicholas Maxwell, @NicholasEAP



# Q1: TRUE OR FALSE?

ChatGPT creates its answers based on patterns it has learned from its training data.

#### TRUE!

- ChatGPT is trained on a large amount of data from the internet, involving billions of words. It uses a method in machine learning known as a transformer, which tries to predict the most likely next word or phrase based on the words it has already seen. (Hence, it's a transformer-based model.) So, if it sees the words "The sky is" frequently, it learns that a good follow-up might be "blue."
- Therefore, the answers it gives are based on patterns it has learned, not from its own understanding or experiences. GenAI is not human!



# Q2: TRUE OR FALSE? WHY?

ChatGPT can retrieve famous books from its training data to provide information about them.

#### FALSE!

When you ask ChatGPT about a book, it does not retrieve the book like we might from a file on a computer or the bookshelf of a library. Even if the book was part of its training data, it does not remember the book itself like a human would.

Rather, it makes a response based on all the discussions about that book within its training data. When asked about famous books, it is less likely to hallucinate (make up an incorrect or illogical answer). This is because famous books are discussed more often in its training data, providing the AI with more examples of how people talk about those books. However, it can get plot and other details mixed up.

Its performance is only as good or bad as its data. (Garbage in, Garbage out)



# HALLUCINATIONS OR DOWNRIGHT FIBS? (JUST ASK THE NOW INFAMOUS "ChatGPT LAWYER," <u>ATTORNEY STEVEN SCHWARTZ</u>, OR ME!)

#### The Task:

I asked Gemini (Google's transformer search engine) to summarize current research on the relationship between online class size and student success.

#### The Results:

It provided a beautiful summary in seconds, relying on 2 studies, one from 2017 and the other from 2019, but it did not cite the exact sources (A 2019 study in the Journal...).

After asking Gemini to provide them...

It provided a citation for the 2019 source with an erroneous title and page numbers, and the 2017 source was completely fabricated. It doesn't exist!

Special thanks to RCSJ librarian, Kat, who confirmed that <u>I</u> wasn't hallucinating!

## **Q3 TRUE OR FALSE?**

ChatGPT can be trusted to produce objective responses.



#### **FALSE!**

ChatGPT learns from huge amounts of text written by humans. If these texts have bias, ChatGPT can reflect this bias in its responses.

For instance, if the texts it learned from were mostly positive about a certain topic, the AI might also generate more positive responses about that topic.

This does not mean the AI has opinions. Rather, it's the human biases from its training data influencing its responses. This appears most prominently when it is asked to generate images (college professors, teachers, plumbers, historical figures, etc.).

Google's Gemini, in particular, has been called out numerous times for generating content with a distinct ideological bias. This calls to mind the famous quote from Orwell's 1984: "Who controls the past controls the future. Who controls the present controls the past."



## **Q4 TRUE OR FALSE?**

ChatGPT can provide different answers when asked the same question more than once.



#### TRUE!

For simple questions with one clear answer, ChatGPT tends to provide similar responses each time. But when asked questions that require more complex answers, it might produce different answers. This is because ChatGPT has been trained on a huge variety of texts from the internet, and it has seen so many ways people express ideas and use language. Therefore, it can generate different answers to the same question using these different ideas, styles, and words it has learned.

**Tip:** Prompting the AI multiple times in slightly different ways yields lots of content for inspiration!

#### FINAL QUESTION, Q5 SHORT ANSWER

Who owns content generated in whole or in part by ChatGPT and GPTs like it?



#### IT REMAINS TO BE SEEN: JUST ASK JASON ALLEN



Allen won Colorado State Fair's first prize in digital art in 2022 with a partially Al-generated image, setting off a contentious debate about just what constitutes art in the Age of Al.

Since then, the US Copyright Office has refused Allen copyright for the work in its entirety due to his collaboration with Midjourney, a multimodal GenAl.

Allen's insight: "I feel like, right now, the art community is heading into an existential crisis if it's not already. A big factor of that is ... the disruptive technology of open Al. . . A lot of people are saying, 'Al is never going to take over creative jobs, that's never going to be something that artists and sculptors have to worry about.' And here we are smack in the middle of it, dealing with it right now."

### IT JUST KEEPS GETTING BETTER (2025 MAY): INSTRUCTOR EXAMPLE

#### Teacher- and Student-Centered Versions:

- Here is a Discussion Board Essay Workshopping
   Assignment designed for an online Composition II:
   Writing with Literature course. This assignment
   combines peer feedback with creative presentation
   formats while reinforcing the importance of
   audience, clarity, and revision in literary analysis.
- Here is a student-facing version of the Essay Workshopping Assignment formatted for Blackboard Ultra. You can copy and paste this directly into a content item, assignment, or discussion forum in your Blackboard Ultra course.

Accompanying Rubric Output in LMS-Specific Format

 Would you like me to create a downloadable rubric file or Blackboard-compatible content export (.zip) for uploading?

### **NEWEST ADVANCEMENTS (SEE EMILY FORLINI'S "THE 9 AI TRENDS")**

#### Recall

- Some GenAl bots, ChatGPT 40 among them, can now remember your past conversations to inform new content.
- Forlini's example: "Are you asking about the risk of toxic paint fumes because last week you told me you're painting your house?" After confirmation, it might respond, "OK, since that's what you're talking about, here are the stats on air quality in freshly painted houses. Since you're painting a few small bedrooms, I wouldn't worry."

#### Agency

Agentive AI: e.g., ChatGPT's Operator (user describes a task and it navigates websites and performs actions as directed) & Deep Research (does research and writes reports). Both are available in beta to subscribers only.

#### **ChatGPT CAPABILITIES AND CAUTIONS**

#### ChatGPT Can



Generate human-like text based on a prompt. Tip: the better the prompt, the better the output.



<u>Answer questions</u>. Remember that its responses are based solely on its training data.



Serve as a tutor or study buddy. Help me revise this sentence, create a quiz or a set of flash cards from this vocabulary list. Help me reword a definition at the 9<sup>th</sup> grade reading level and so on.



Role play. Ask it to play the part of an interviewer to prepare for a real job interview.



Enhance productivity. Summarize a website or article.

#### ChatGPT Cannot or Should Not

- Understand or feel emotions.
- Replace human judgement. (Doesn't truly understand its own advice. Humans need to make the judgement calls.)
- Give professional advice. (Think doctors, lawyers)
- Guarantee accuracy or objectivity. (Think Hallucinations, nonsense, and false or biased information.)
- Replace human interaction. (Humans need humans.)

DANGER: FORGETTING
HUMANITY--JUST
BECAUSE WE CAN,
SHOULD WE?



# CAUTION: IGNORING THE IMPACT ON THE MOST VULNERABLE

Boy, 14, fell in love with 'Game of Thrones' chatbot — then killed himself after Al app told him to 'come home' to 'her'

#### CAUTION: IGNORING THE ENVIRONMENTAL IMPACT UNTIL IT'S TOO LATE

MIT News--"Explained:Generative Al's environmental impact"



# ALWAYS USE GenAl SAFELY

- Never include Personally Identifiable Information in prompts or uploads. (For example, remove your name, address, phone number, email address from your resume before uploading it.)
- Always check your security settings. <u>Turn off using your sessions to train the bot.</u> ("Make the model better for everyone.")
- Always read the user agreement before agreeing to it!
- Always get parental permission if under 18.
- Always use the GPT your school/workplace provides if one is provided.
- Always remember that a chatbot is not human even if it looks or sounds human. Treating chatbots as if they are human can cause harm especially to vulnerable and/or minor users.

# ALWAYS USE GenAl ETHICALLY

- Know and adhere to your school's/workplace's Al policy and ask for clarification if needed.
- Know and adhere to your teacher's/supervisor's Al policy and ask for clarification if needed. Even better, ask to collaborate on a class Al policy with your teacher/supervisor each year or each semester. Remember: what's permitted in one class, may not be in another and vice versa.
- Take a "restrained" or "prescriptive" Al approach. Do not use a GPT to replace learning! Use it as a tutor, not an author/composer! Critical thinking and composition help us understand what we think, why we think it, and grow. Without that learning, we become stunted and in effect a bot ourselves. Let Al do the tedious work, but don't let it do the important thinking or speaking for you.
- If using its content, read it, vet it, and revise it to make it your own. Do NOT simply copy and paste!
- If you use Al for schoolwork, you must cite it!
  - How to cite ChatGPT in APA.
  - How to cite ChatGPT in MLA.
- Be on high alert for bias.

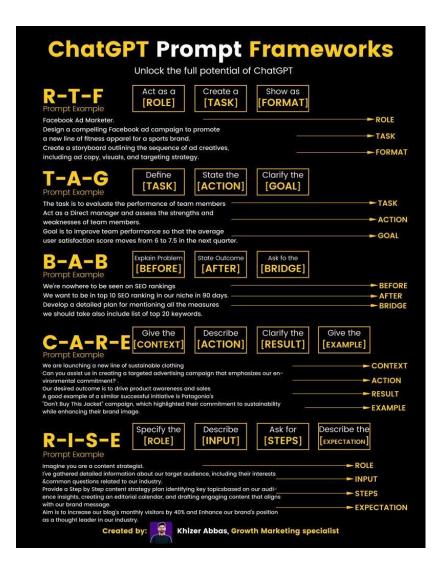
# STRIVE TO USE GenAI EFFECTIVELY

- Never stop honing your prompting skills. Practice and experiment, practice and experiment, and repeat.
- Follow ethical Al enthusiasts like
  - Andrew Ng Co-founder of Coursera and deeplearning.ai
  - <u>Fei-Fei Li</u> A professor at Stanford University and co-director of the Stanford Human-Centered Al Institute
  - Yoshua Bengio One of the pioneers of deep learning and a professor at the University of Montreal
  - Kate Crawford A leading researcher in the social implications of Al
  - Janelle Shane Known for her humorous and informative blog "Al Weirdness"
  - Lex Fridman Al researcher and podcaster
  - <u>Elon Musk</u> Founder PayPal, Tesla, SpaceX, Grok, etc.
- Fact check and fact check again.
- Do not trust references. Always make sure you can find the sources, and that they are what they are purported to be.
- Understand and remember the GPTs' limitations.

## DISCOVER THE ART OF "PROMPT ENGINEERING"

#### Resources abound!

- Frameworks
- Cheat sheets
- Courses
- Books/Videos
- And more



# MORE HELP BECOMING A PROMPTING PRO

#### Think Inside <u>and</u> Outside of the Box:

- Describe the "self" in your ChatGPT account settings that is most related to the types of responses you'll be seeking from the GPT. For example, "I am a community college instructor dedicated to universal design for learning in my courses. I teach technology literacy, writing, critical reading and writing, and literature."
- Describe the style of responses you seek in your ChatGPT account settings (use formal or informal language, avoid jargon, use short sentences, etc.)
- Feed the GPT the information you want it to use to give you the best responses. For example, upload the job description and your resume (with personal info removed) and ask it to use them to create a cover letter that uses the most relevant and compelling information from both. Not all GPTs accept uploads. ChatGPT does.
- If you're unsure of what the GPT might need to do its job well, ask it! Back to the cover letter example: "I need help writing a cover letter for a job as a digital marketing specialist. Please let me know what specific details or context you need from me to give me the most accurate and effective response."

#### RESOURCES FOR FURTHER LEARNING

- History of generative Artificial Intelligence (AI) chatbots: past,
   present, and future development
- The Generative Al Tools Landscape
- Coursera Prompt Engineering Course from Vanderbilt U (Free 7day trial)
- Best practices for prompt engineering with the OpenAl API
- The 9 AI Trends I'm Most Excited About Right Now





# THANK YOU!

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Slide design/images: Judy and CoPilot Designer