

AI Demystified:

What Special Education Practitioners Need to Know

February 8th, 2024

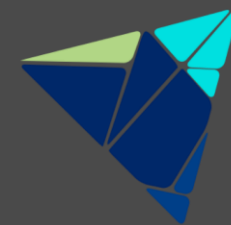
5:00 pm ET



Dr. Anya Evmenova

Dr. Evmenova is a professor in the College of Education and Human Development at George Mason University. Dr. Evmenova teaches undergraduate, master, and doctoral courses in assistive technology, special education, and research methods. She is the recipient of the Teaching Excellence Award, Online Teaching Excellence Award, and John Toups Presidential Medal for Faculty Excellence in Teaching from GMU for her UDL-based instruction. Her research interests focus on the research and development of technology for inclusive education and academic instruction for students with various abilities and needs and Universal Design for Learning. Dr. Evmenova has raised more than \$17 million in federal and state grants to support her technology development endeavors. She is a former ISET President.





CIDDL

Samantha Goldman

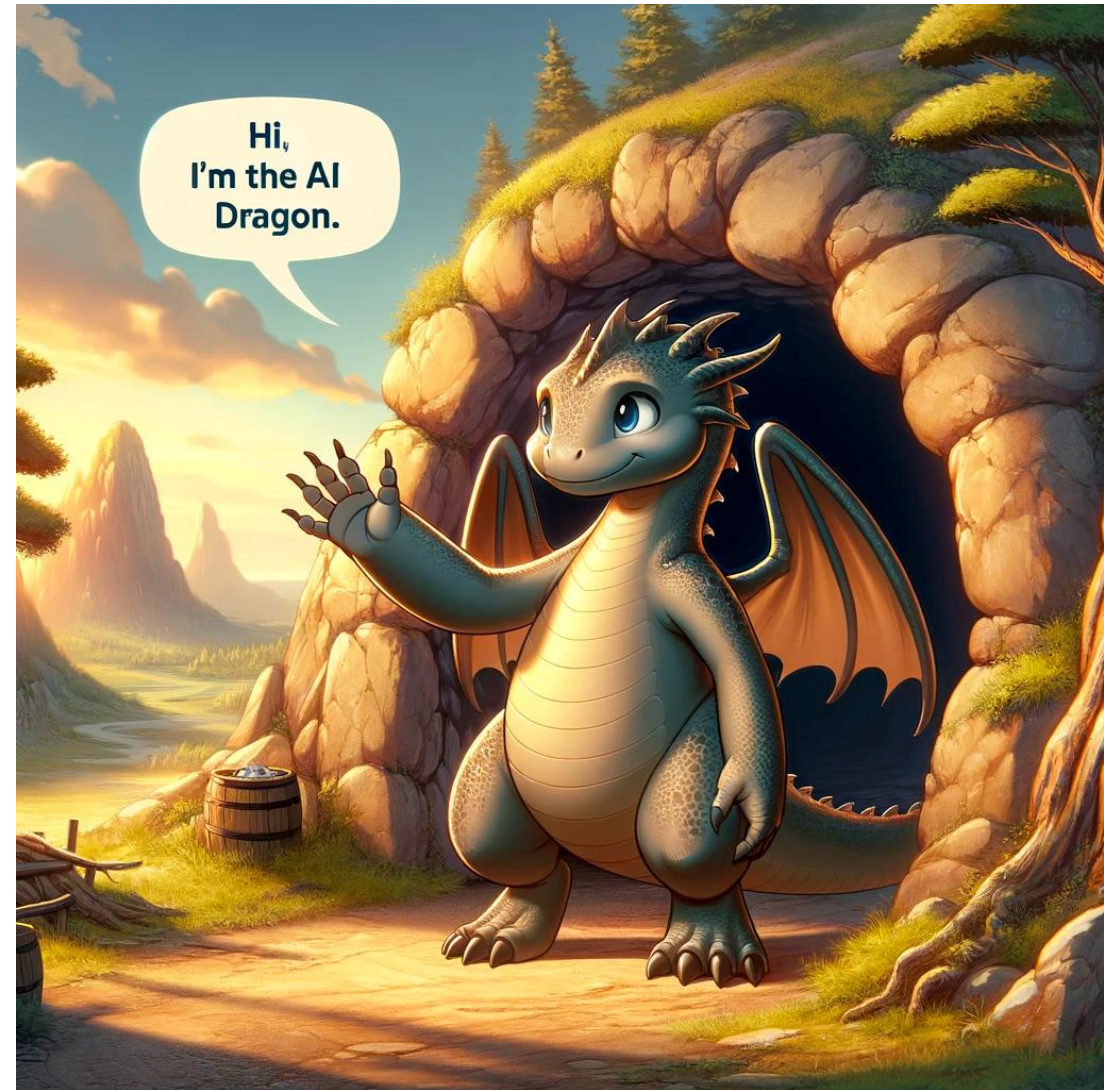


Samantha Goldman is a doctoral student in special education at the University of Kansas, Lawrence, Ks where she specializes in instructional design, technology, and innovation. She is a graduate research assistant for the Center for Innovation, Design, and Digital Learning (CIDDL). This national center focuses on improving faculty's capacities to use educational technology in personnel preparation programs. Her research focuses on leveraging existing, emerging, and innovative technologies and evidence-based practices with high-quality instruction to empower teacher education, pre-service special education teachers, and students with disabilities/ struggling learners to improve writing outcomes.

Disclaimer: The contents of this presentation were developed by the presenters under award #H327F200008. They do not represent the policy of the Department of Education. Do not assume endorsement by the Federal Government.



Let's Get to Know You!



Purpose/ Objectives

1. What is AI?
2. Should I be scared of it?
3. Is AI already in my classroom?
4. What are some tools that use AI that I might want to use?
5. What are some resources for the ethics and legality of AI?

Why We Need to Talk about AI and Education...

1950's

The Classroom



The Workplace



1990's

The Classroom



The Workplace



Current

The Classroom



The Workplace



AI That is Already in Your Classroom



ALEKS[®]



Natural Reader



read&write

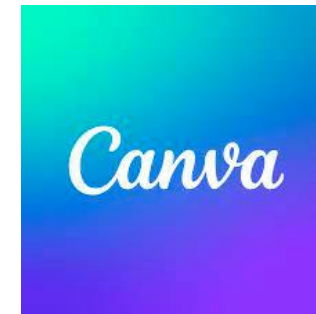


grammarly



Renaissance
lalilo

Google



Future?

The Classroom



The Workplace



What is AI?

- Computer science
- Creates “intelligence” from data, algorithms, hardware
- Makes decisions, finds patterns, does actions
- Very general term
- Built as
 - Rule-based systems
 - Machine learning

Ruiz & Fusco, 2023

Some Terms to Know....

Algorithm: the AI rules










Natural Language Processors: ability to understand and comprehend language

Intelligent Tutoring Systems/ Adaptive Learning:
Material presented to student changes based on how the student performs

Machine learning: The AI learns rules and patterns without a human giving it those rules

Ruiz & Fusco, 2023

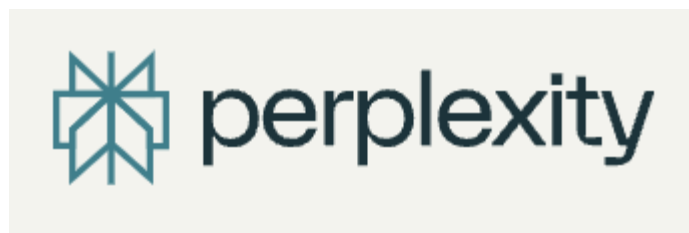
So... What Types of AI are These?

Natural Language Processor	Intelligent Tutoring/ Adaptive Learning	Machine Learning	Some combination or Something Else...
  	 Renaissance lalilo  ALEKS [®]	 	 

What is Generative AI?

Generate text, images, data based on prompt

Large Language Model (LLM) chatbots



So... What's ChatGPT?

Generative: responds to questions/ prompts

Pre-trained: trained in advance

Transformer: a type of language model

Ruiz & Fusco, 2023

Story of ChatGPT

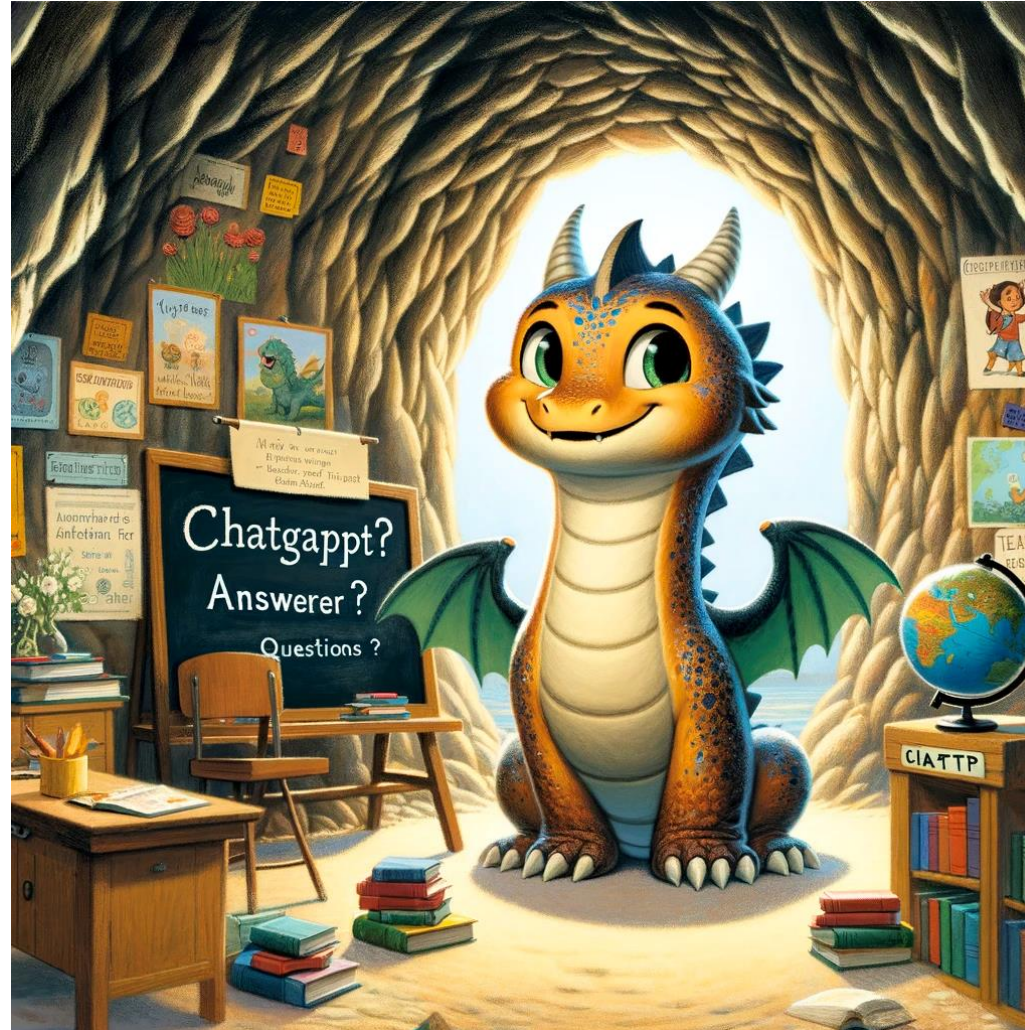


Image generated
by ChatGPT



Image generated
by ChatGPT

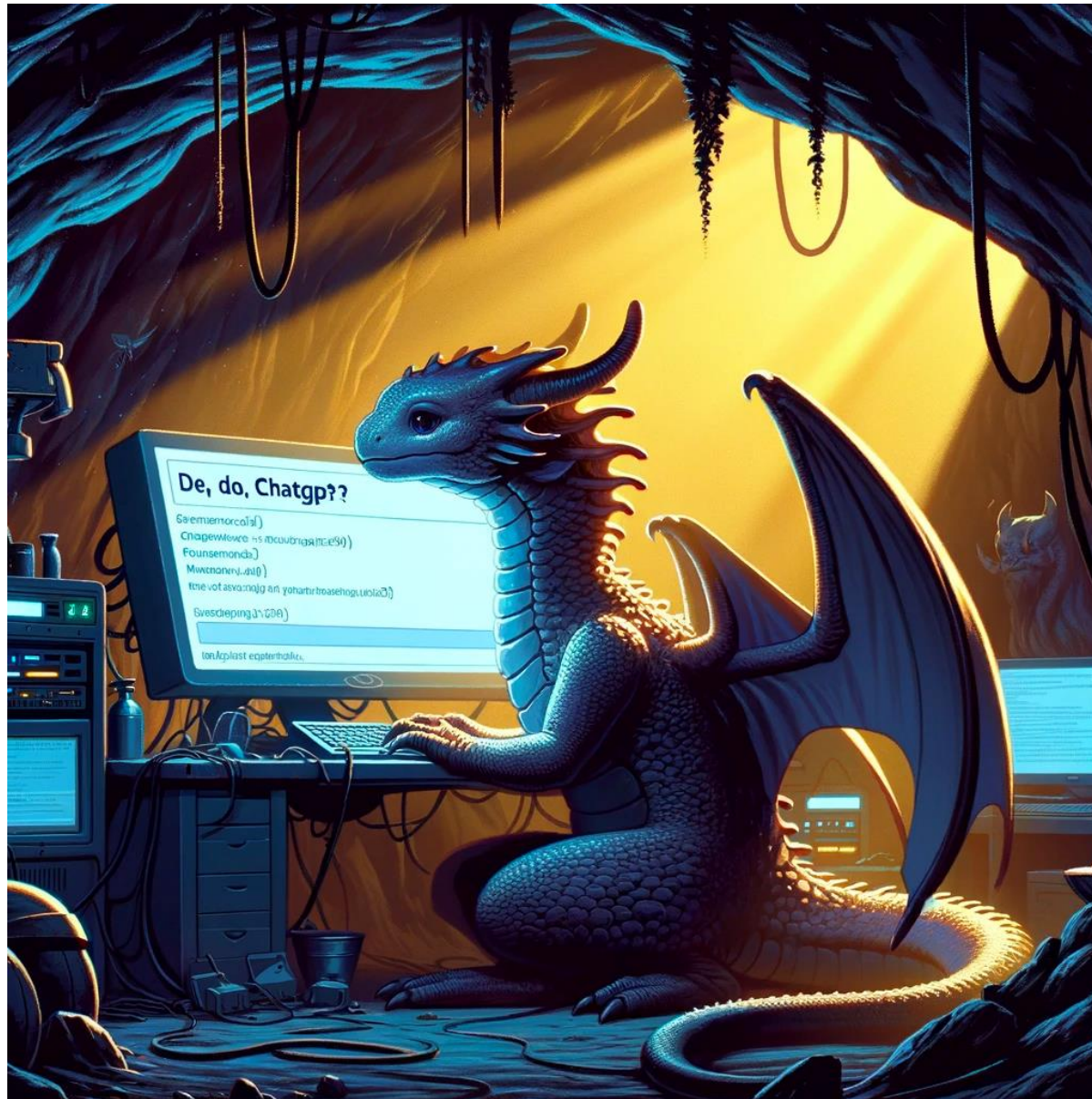


Image generated by ChatGPT

April 2023



Image generated
by ChatGPT

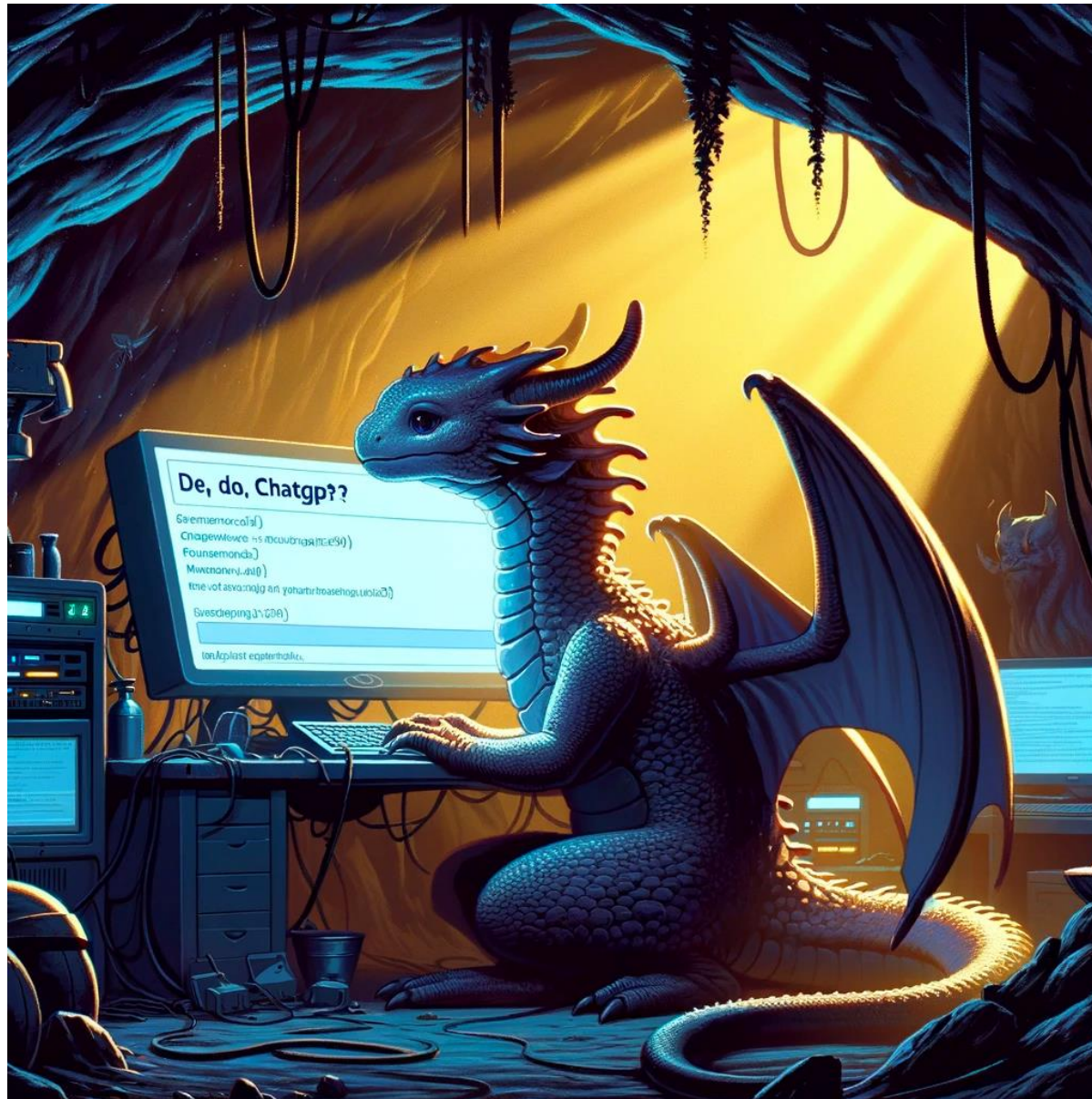
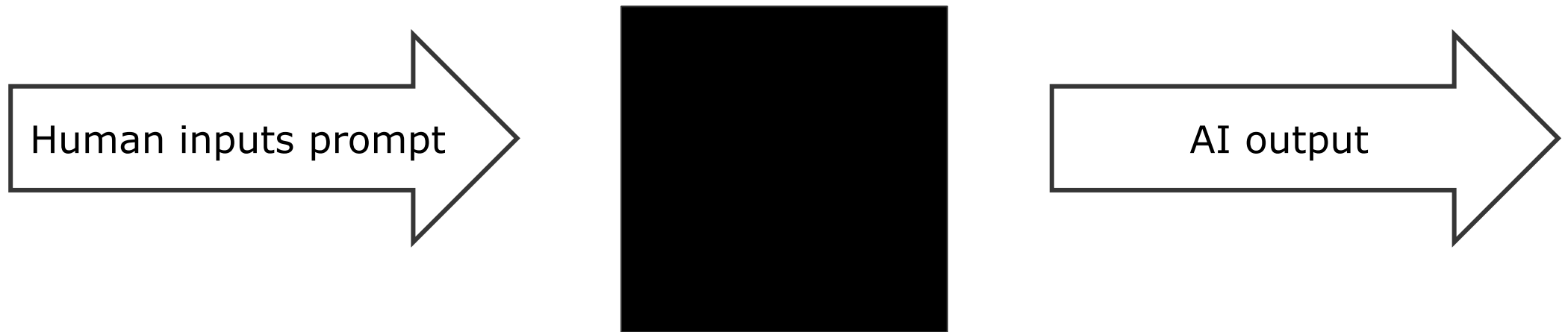


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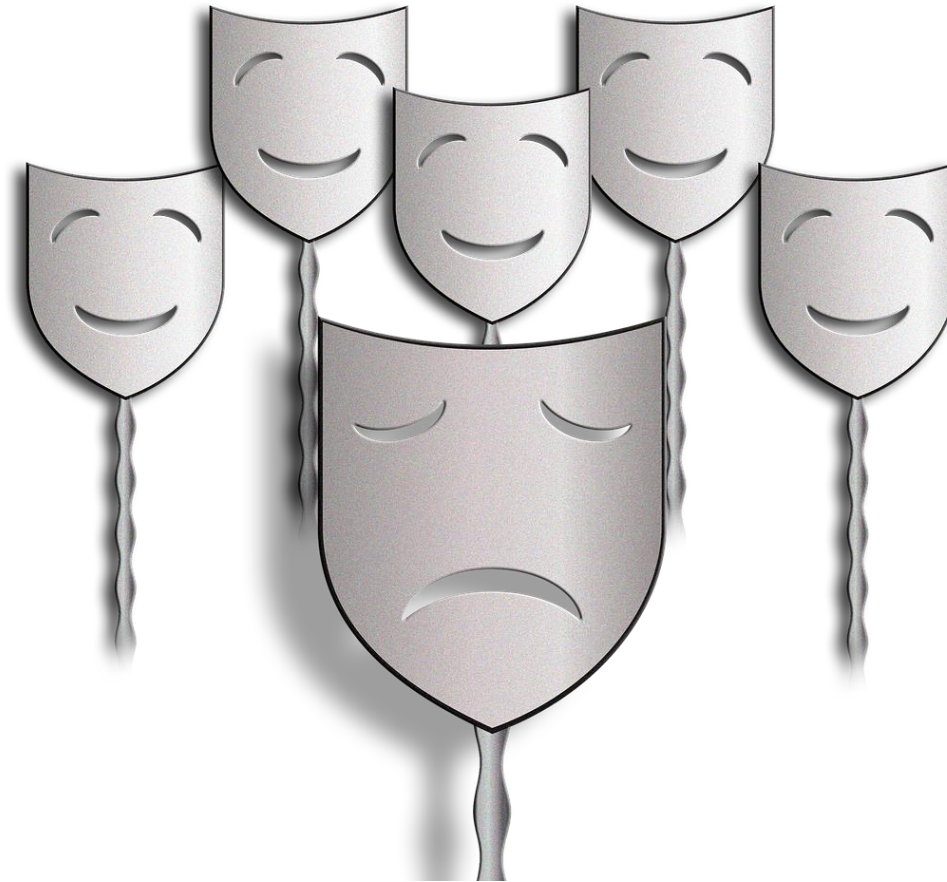
The Black Box

- AI algorithms are black boxes
- Don't know how AI uses data
- Lack of transparency



Ruiz & Fusco, 2023

Is AI a Friend or an Enemy?



Types of AI and Examples

How to Find AI?

THERE'S AN AI FOR THAT*

 **TOOL
REPORT**

 **AIEDUCATOR.TOOLS**

 **CIDDL**
Center for Innovation, Design, and Digital Learning

Chatbots: ChatGPT & Google Bard



Explain hurricanes in simple terms for 5-year old



A hurricane is a big, strong storm with lots of wind and rain.



It starts over warm water in the ocean, where the sun has made the water really hot. The hot water turns into water vapor, which rises up into the air and makes big, fluffy clouds.

As the clouds grow bigger and bigger, they start to spin around in a circle because of the wind. The spinning makes the storm stronger and stronger.

When a hurricane gets close to land, it can make big waves and lots of rain, which can be dangerous. That's why people sometimes have to prepare for a hurricane by staying safe indoors or leaving the area until the storm passes.

Chatbots in the Classroom: Teachers

- Create passages at specific grade levels, on specific topics
- Differentiate reading level, simplify concepts/terms
- Write comprehension questions for a given text
- Create word problems with specific functions
- Design study guides, templates, summaries for given text
- Create rubric, provide feedback, grading
- Develop social stories, scenarios, exemplars
- Create lesson plans
- Write parent emails
- Draft IEP components (e.g., PLOP, SMART goals)

Chatbots in the Classroom: Students

- Brainstorm ideas
- Edit writing
- Practice writing emails (e.g., elaboration)
- Create and refine a research question
- Research a topic (with Bard)
- Chatbot makes a claim; students search for primary sources to back it up (e.g., history)
- Chatbot creates an output, students check it for accuracy

Chatbots Cautions

- Never share student personal information
- Beware of AI hallucinations
- Check everything a chatbot generates for accuracy
- More is coming up ...



Image Generation

Magic Studio

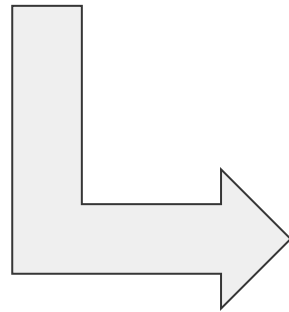
All the power of Canva's AI, all in one place. Magic Studio™ brings together the best AI-powered tools for you and your team, right inside Canva.

FREEP!K

DALL·E 3

Image generation in the Classroom: Creating stories

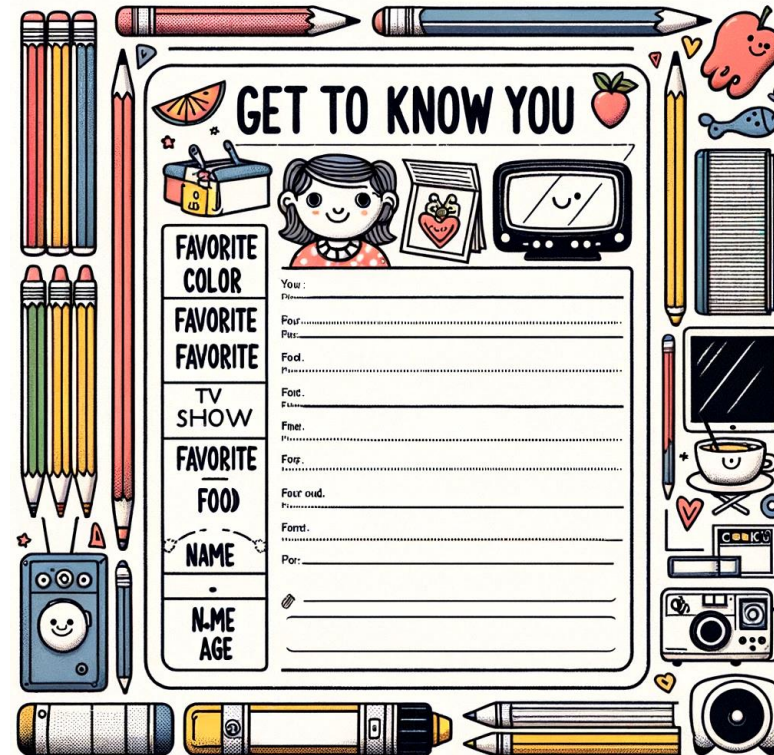
Prompt: write a story with pictures meant for a 3rd grader with autism who decodes at the 2nd grade level and comprehends at the kindergarten grade level about a turtle who goes to the dentist. The moral of the story should be that the dentist isn't scary.



Once upon a time, in a bright and colorful world, there lived a friendly turtle named Timmy. Timmy was a little turtle with a big heart and an even bigger smile. One sunny day, Timmy decided it was time for his very first visit to the dentist. He put on his small backpack and set off on an adventure.

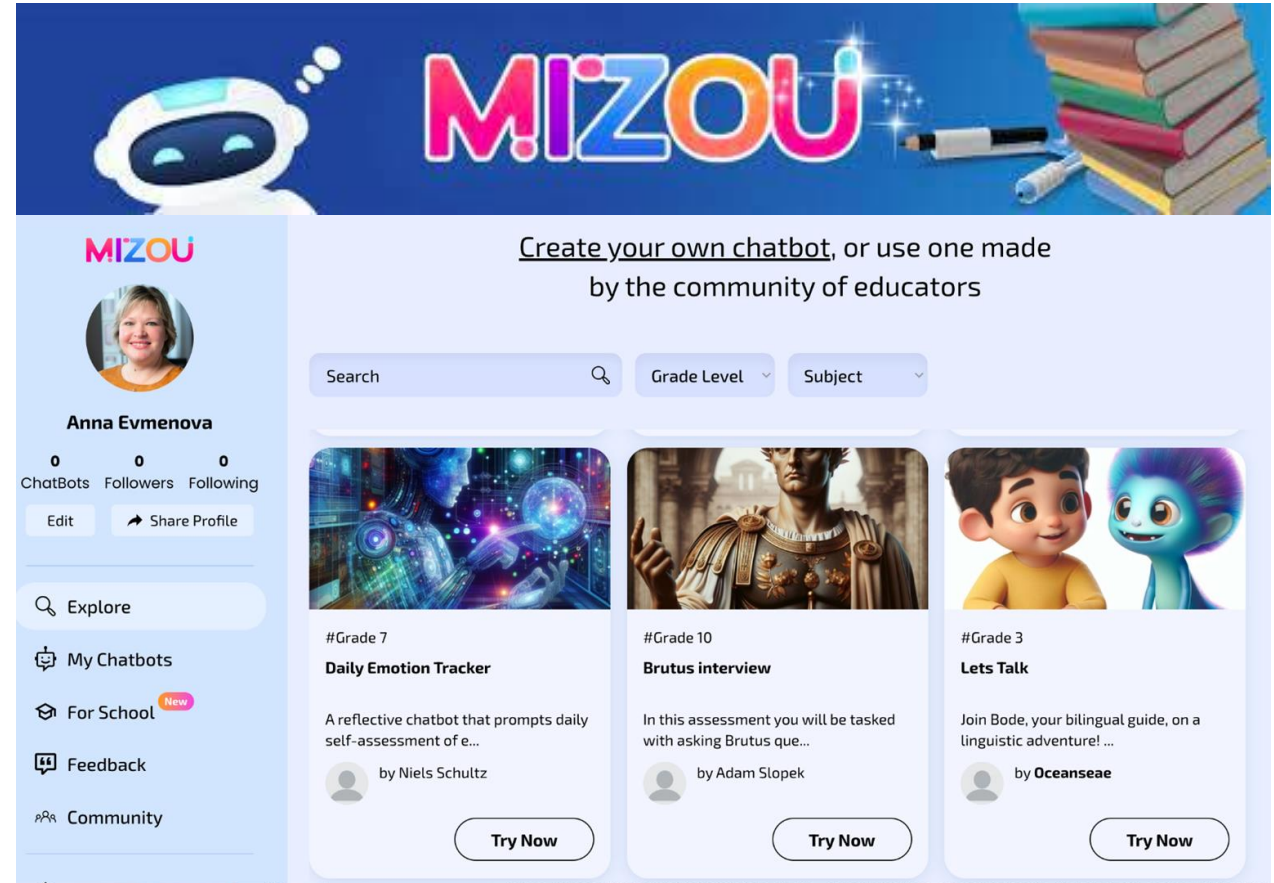
Image Generation Cautions

- spelling and grammar
- “extras”



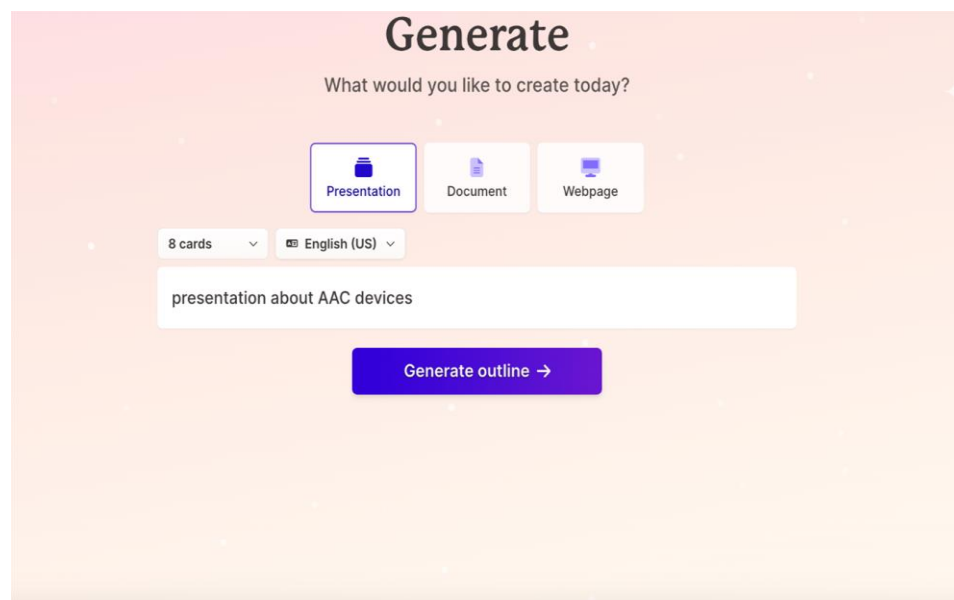
Content Generator: MIZOU

- Allows creating
 - Interactive activities
 - Assessments, quizzes
 - Homework
 - Rubrics
- Multiple formats
- Captions
- Supports 50 languages
- Student data protection

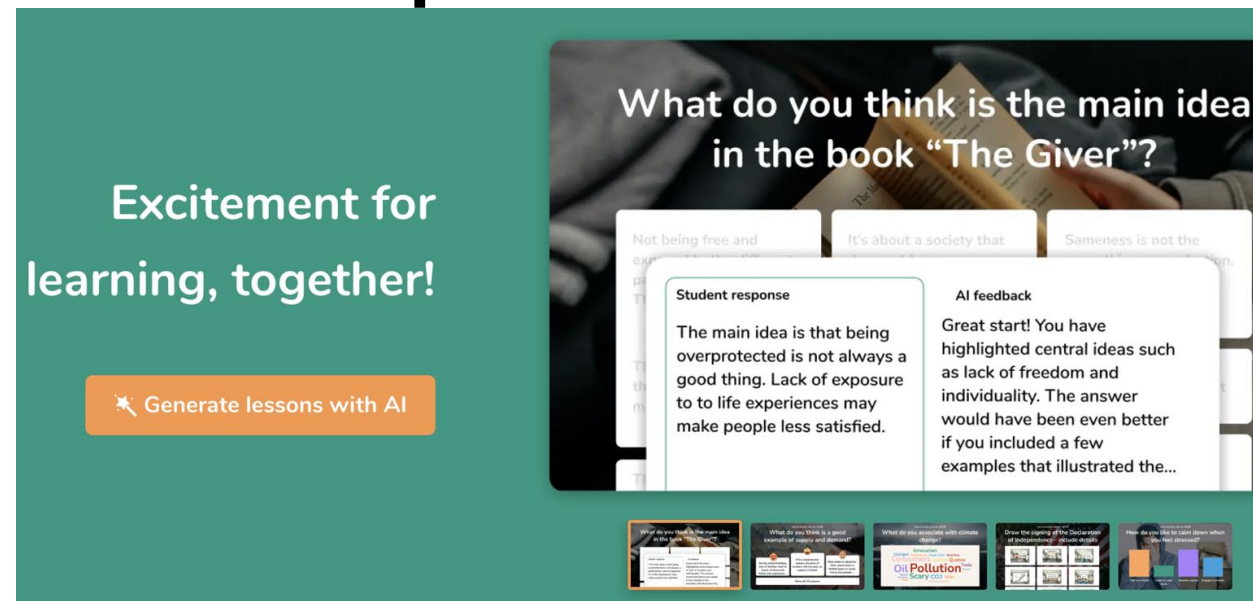


Other Content Creators:

Gamma.app



Curipod



Teaching Assistant: MagicSchool

The screenshot displays the MagicSchool Plus web interface. On the left is a navigation sidebar with the 'MAGIC SCHOOL PLUS' logo at the top. Below the logo are several menu items: 'Magic Tools' (highlighted in purple), 'Raina (Chatbot)', 'Output History', 'MagicStudent', 'Love', 'Training', 'Share the Magic', and 'Upgrade'. A notification at the bottom of the sidebar states 'Plus ends in 14 days'. At the bottom of the sidebar is the slogan 'TEACHERS ARE MAGIC'. The main content area features a search bar and a set of filter tabs: 'All', 'Planning', 'Content', 'Questions', 'Intellectual Prep', 'Student Support', 'Communication', and 'Community Tools'. Below the filters is a section titled 'All Tools' with a 'Sort by Most Popular' dropdown. The tools are arranged in a grid of six cards, each with an icon, a title, a brief description, and a star icon for favoriting. The tools are: 'Custom Chatbot' (marked 'NEW!'), 'Multiple Choice Assessments', 'Lesson Plan', 'Text Rewriter', 'Report Card Comments', 'YouTube Video Questions', 'Informational Texts', and 'Academic Content'. A blue chat bubble icon is located in the bottom right corner of the main content area.

MAGIC SCHOOL PLUS

Search

All Planning Content Questions Intellectual Prep

Student Support Communication Community Tools

All Tools Sort by Most Popular

- Custom Chatbot** **NEW!**
Create a custom chatbot to interact with based on any criteria that you choose!
- Multiple Choice Assessments**
Create a multiple choice assessment based on any topic, standard(s), or criteria!
- Lesson Plan**
Generate a lesson plan for a topic or objective you're teaching.
- Text Rewriter**
Take any text and rewrite it with custom criteria however you'd like!
- Report Card Comments**
Generate report card comments with a student's strengths and areas for growth.
- YouTube Video Questions**
Generate guiding questions aligned to a YouTube video.
- Informational Texts**
Generate original informational texts for your class, customized to the topic of your choice.
- Academic Content**
Generate original academic content customized to the criteria of your choice.

Plus ends in 14 days

TEACHERS ARE MAGIC

MagicSchool in the Classroom

Top Magic Tools for Special Education Teachers:

- IEP Generator
- Accommodations Suggestion Generator
- Text Leveler
- Assignment Scaffold

One More Teaching Assistant: Diffit

- Adapt reading levels
 - Copy/paste
 - Article upload
 - URL/websites
- Generate passages
- Add questions
- Export student-ready resources

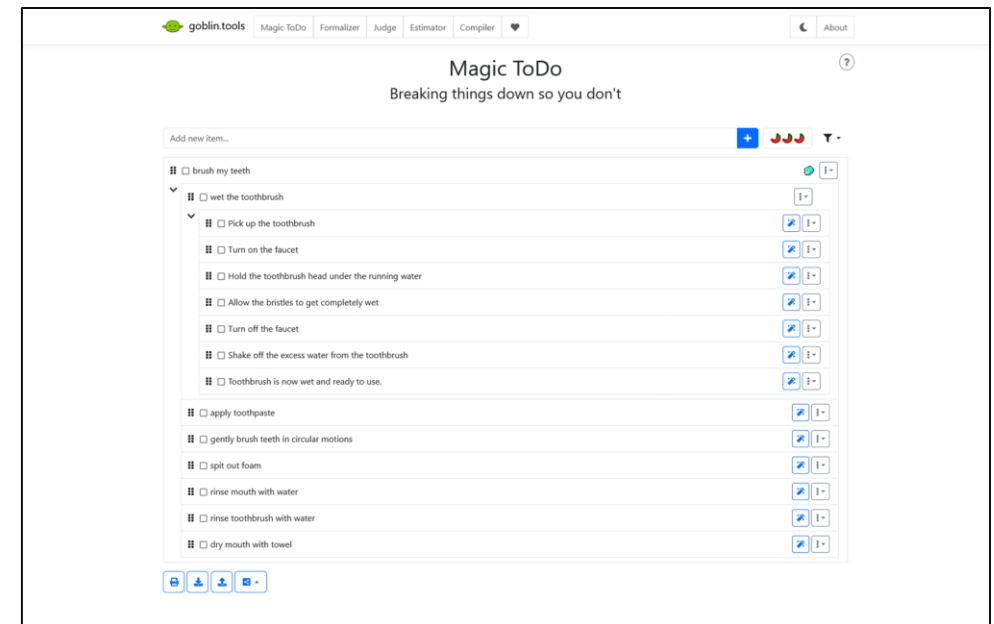
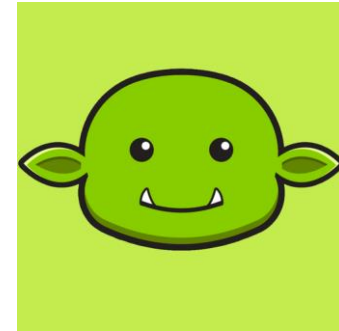
Diffit
For Teachers

Magic To Do - GoblinTools

Task Analysis Tool

- Break assignment into chunks
- Create a list of steps
- Sequencing activities
- Self-monitoring

Emphasizer Tool



AI and UDL: LUDIA



Ludia

Poe

Hi, I am LUDIA, your AI-powered UDL partner! How can I support you today? Please share your subject, grade level, learning goals, and design challenges. Relevant information about the language profiles, strengths, interests, and cultural identity of your learners can also be useful to share.

 Share



Tell me more



What is Your One Biggest Concern about Generative AI?



ChatGPT in the IEP?

Considerations for generative AI as an accommodation/modification

A Quick Reminder...

Aspect	Universal Supports	Accommodations	Modifications
Definition	<ul style="list-style-type: none">• Practices and tools available to all students to enhance accessibility without altering the curriculum.	<ul style="list-style-type: none">• Adjustments in how a student learns, not changing the curriculum content but how information is accessed.	<ul style="list-style-type: none">• Changes in what a student is expected to learn, altering the curriculum or expectations to fit learning needs.

created by ChatGPT

An Example...

Aspect	Universal Support
Learning Goal	Learn about the Revolutionary War
Use of AI	All students can use any source (video, internet, books, AI) to gather information. Everyone shares their learning in a preferred medium.
Goal of the Assignment	To learn about the revolutionary war.
Assessment Focus	Assessing student's knowledge of the war, not how well someone can navigate the library.

(Goldman, 2023)

An Example...

Aspect	Universal Support	Accommodation
Learning Goal	Learn about the Revolutionary War	Learn about the Revolutionary War
Use of AI	All students can use any source (video, internet, books, AI) to gather information. Everyone shares their learning in a preferred medium.	Only some students use AI to generate information in list form, as a jumping-off point, while others use traditional methods.
Goal of the Assignment	To learn about the revolutionary war.	To learn about the revolutionary war.
Assessment Focus	Assessing student's knowledge of the war, not how well someone can navigate the library.	Assessing student's knowledge of the war, not how well someone can navigate the library.

(Goldman, 2023)

An Example...

Aspect	Universal Support	Accommodation	Modification
Learning Goal	Learn about the Revolutionary War	Learn about the Revolutionary War	Develop a 5-paragraph essay about the Revolutionary War
Use of AI	All students can use any source (video, internet, books, AI) to gather information. Everyone shares their learning in a preferred medium.	Only some students use AI to generate information in list form, as a jumping-off point, while others use traditional methods.	Student uses AI (e.g., ChatGPT) to write a 5-paragraph essay.
Goal of the Assignment	To learn about the revolutionary war.	To learn about the revolutionary war.	To learn about writing a 5 paragraph essay and the revolutionary war. Learning how to prompt AI is a goal for the student.
Assessment Focus	Assessing student's knowledge of the war, not how well someone can navigate the library.	Assessing student's knowledge of the war, not how well someone can navigate the library.	A valid skill, but the learning goal differs from the rest of the class, making it a modification.

(Goldman, 2023)

A quick sum up...

- ChatGPT is a tool
- Context matters
- Depending on the situation, it can be a universal Support, accommodation, or modification
- Focus on removing barriers to meet the learning goal

Legal/Ethical Considerations

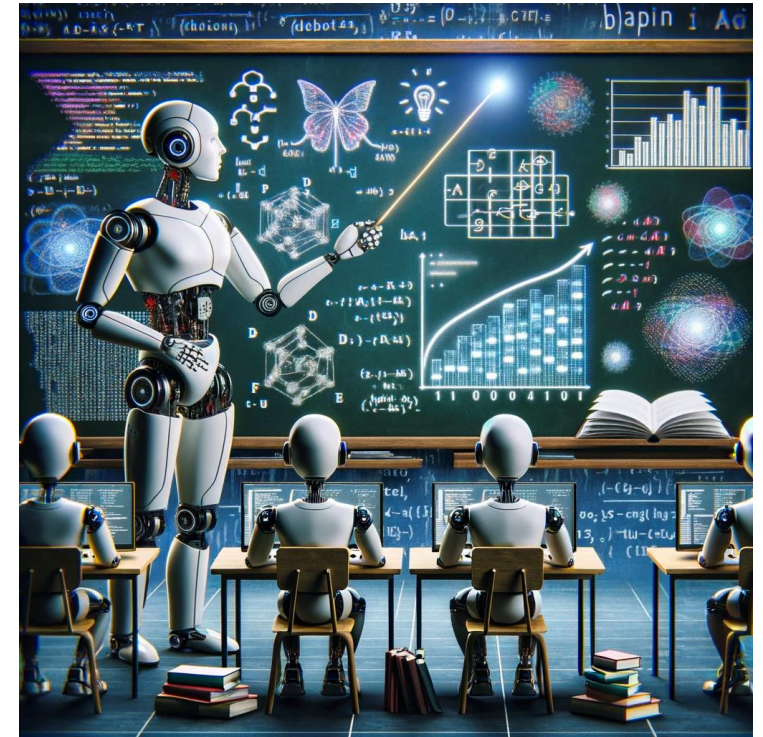


Student Data and Privacy



Consider Where the Data Come From (Bias)

- Models are trained off of the information that is available on the internet
- The voices that dictate those stories are the ones that drive the models
- Consider who has the story told, who is telling it, and who is absent.



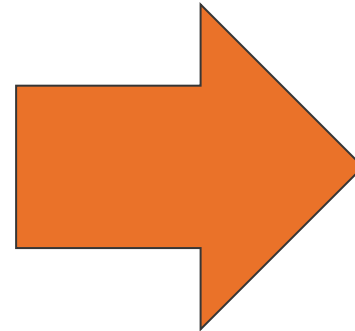
(Marino et al., 2023)

Plagiarism

- Hard to detect
 - Existing AI detectors (in its infancy; not accurate):
 - [Turnitin](#)
 - [ZeroGPT](#) and [GPTZero](#)
 - Work around:
 - Use your instincts
 - Use tools that provide revision history
 - Check the references
 - Consider how to adapt your assignments to target learning goals in more personalized ways, leveraging AI
- (Marino et al., 2023)

Generative AI Will Change Education

One way to do it...



Multiple ways...

Universal Design for Learning Guidelines

	Provide multiple means of Engagement → Affective Networks The "WHY" of learning	Provide multiple means of Representation → Recognition Networks The "WHAT" of learning	Provide multiple means of Action & Expression → Strategic Networks The "HOW" of learning
Access	Provide options for Recruiting Interest (7) → <ul style="list-style-type: none">Optimize individual choice and autonomy (7.1) >Optimize relevance, value, and authenticity (7.2) >Minimize threats and distractions (7.3) >	Provide options for Perception (1) → <ul style="list-style-type: none">Offer ways of customizing the display of information (1.1) >Offer alternatives for auditory information (1.2) >Offer alternatives for visual information (1.3) >	Provide options for Physical Action (4) → <ul style="list-style-type: none">Vary the methods for response and navigation (4.1) >Optimize access to tools and assistive technologies (4.2) >
Build	Provide options for Sustaining Effort & Persistence (8) → <ul style="list-style-type: none">Heighten salience of goals and objectives (8.1) >Vary demands and resources to optimize challenge (8.2) >Foster collaboration and community (8.3) >Increase mastery-oriented feedback (8.4) >	Provide options for Language & Symbols (2) → <ul style="list-style-type: none">Clarify vocabulary and symbols (2.1) >Clarify syntax and structure (2.2) >Support decoding of text, mathematical notation, and symbols (2.3) >Promote understanding across languages (2.4) >Illustrate through multiple media (2.5) >	Provide options for Expression & Communication (5) → <ul style="list-style-type: none">Use multiple media for communication (5.1) >Use multiple tools for construction and composition (5.2) >Build fluencies with graduated levels of support for practice and performance (5.3) >
Internalize	Provide options for Self Regulation (9) → <ul style="list-style-type: none">Promote expectations and beliefs that optimize motivation (9.1) >Facilitate personal coping skills and strategies (9.2) >Develop self-assessment and reflection (9.3) >	Provide options for Comprehension (3) → <ul style="list-style-type: none">Activate or supply background knowledge (3.1) >Highlight patterns, critical features, big ideas, and relationships (3.2) >Guide information processing and visualization (3.3) >Maximize transfer and generalization (3.4) >	Provide options for Executive Functions (6) → <ul style="list-style-type: none">Guide appropriate goal-setting (6.1) >Support planning and strategy development (6.2) >Facilitate managing information and resources (6.3) >Enhance capacity for monitoring progress (6.4) >
Goal	Expert Learners who are...		
	Purposeful & Motivated	Resourceful & Knowledgeable	Strategic & Goal-Directed

(CAST, 2024)

What are You Still Wondering About?



Come join us in the tech playground!

Tech Blitzes

10 minute step-by-step presentations focused on using AI and tech tools in your classroom!

Learn it today, use it tomorrow!

Ask the AI expert

Got questions about AI? Want some 1-on-1 time with an expert? Check out the booth in the tech playground!

References

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Additional AI

- [Seeing AI](#) - visual impairment
- [Envision AI](#) - visual impairment
- [EditGPT](#) - editing
- [Sapling](#) - editing
- [Prowritingaid](#) - editing
- [Ember.ly](#) - brainstorming/ mindmap
- [Trellis](#) - reading
- [ARASAAC](#) - AAC
- [Ahref](#) - writing resources
- [SLAIT](#) - Sign language to text/ speech to text
- [Formative](#) - assessment
- [Reading Coach](#) - fluency
- [Findsight](#) - reading/ writing (claims)

Additional Resources from CIDDL

- [CIDDL's website](#)
- Join the [CIDDL's Community!](#)
- [CIDDL's Youtube](#)
- [Recommended Books/Readings](#)
- [Tool Library](#)



CIDDL Community



CIDDL Social Media



CIDDL

Center for Innovation, Design, and Digital Learning

AI Legislation

- [Department of Ed Tech: Artificial Intelligence and the Future of Teaching and Learning](#)
- [White House Blueprint for an AI Bill of Rights](#)
- [Ethical Guidelines on the Use of Artificial Intelligence \(AI\) and Data in Teaching and Learning for Educators](#)
- [UNESCO AI Resources](#)
- [Whitehouse Executive Order](#)

Additional Resources

- [UNESCO's K-12 AI Curricula Guide](#)
- [K-12 Readiness Checklist](#)
- [ISTE AI](#)
- [The Future of Artificial Intelligence in Special Education](#)

[Technology](#)