

NCDPI Generative AI Implementation Recommendations and Considerations for PK-13 Public Schools

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What is Generative AI?

Artificial Intelligence (AI) in computer systems that perform tasks that mimic human intelligence.

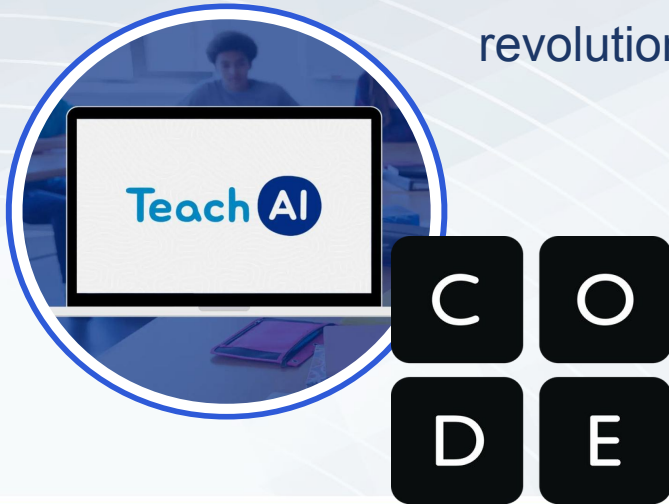
Generative AI is a type of AI that generates or creates text, images, audio, video, and code.

AI in Education:

- AI has the potential to truly transform teaching and learning unlike any technology before.
- AI also introduces some concerns, especially in education.
- The risks of ignoring AI are far greater than the risks of implementing it.
- School leaders need guidance on how to implement AI responsibly.
- AI will become more and more ubiquitous in all areas of our lives.
- AI Literacy, an understanding of this technology and how to use it responsibly, will be a necessary skill for our students.

“North Carolina continues a tradition of trailblazing digital learning by releasing groundbreaking guidance on the use of generative AI. It is a testament to the state's commitment to integrating AI responsibly to revolutionize teaching with and about AI.”

Pat Yongpradit, Chief Academic Officer of Code.org and Lead of TeachAI



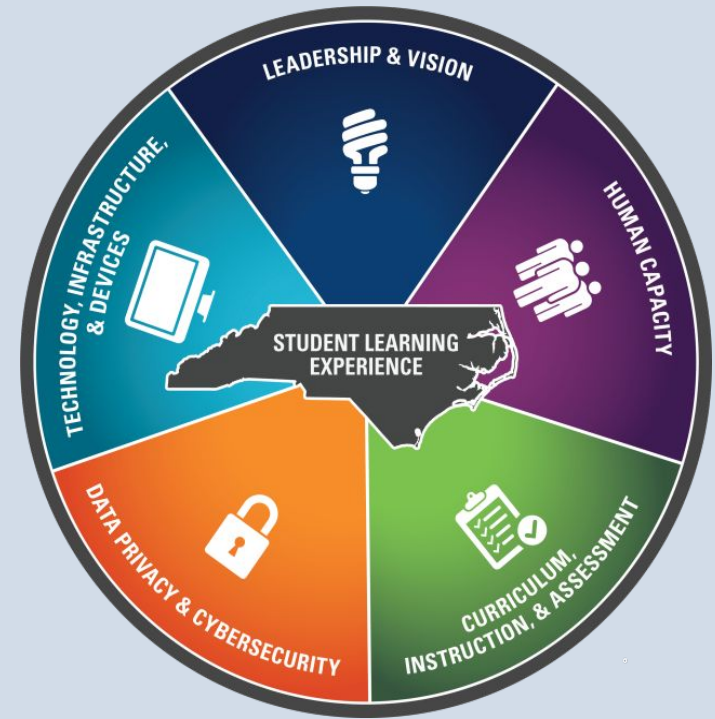
Generative AI Guidelines



- Released January 2024
 - Provide ongoing, solutions-based guidance which balances the potential of generative AI to transform education and the concerns and limitations of the technology
 - Provide ready-to-use resources to help North Carolina district and school leaders responsibly and safely implement generative AI into their schools
 - Ensure students are ready for the future
 - Access the guidelines at https://go.ncdpi.gov/AI_Guidelines

Organization and Alignment

- This resource is organized around the NC Digital Learning Plan which encourages the safe use of innovative technology to prepare students for future school and work to improve student outcomes and support the appropriate use of technology to advance learning.
- The AI Guidance and the Digital Learning Plan directly Align with the goals of the NC Portrait of a Graduate.



Leadership and Vision

This section focuses on:

- The appropriate use of GenAI in schools
- The importance of NC Portrait of a Graduate's durable skills in the age of AI
- Benefits of AI through responsible implementation
- Suggested AI implementation roadmap
- Recommendations for developing PSU guidelines
- The importance of a thorough and robust AI Literacy training plan
- Tips for evaluating Generative AI tools
- Example Generative AI amendment to School integrity Policy



Appropriate Use

Education without AI



Like riding a mountain bike, the human is in control, but also has no assistance. Sometimes the struggle inhibits learning.

Too Much Reliance on AI



Like riding a motorcycle, you can go really fast, but it is unpredictable and can even be dangerous.

Using AI as a Learning Partner



Like riding an E bike, the human is totally in control, but the E bike can reduce the struggle and result in more productive learning.

Analogy & Graphic- credit Vera Cubero (NCDPI)
Images created by Vera Cubero in partnership with Dall-E 3
GenAI image creator via ChatGPT 4



A Roadmap for Responsible Implementation

1

Establish a Foundation

- Host meetings /w district & school leaders, Board & key decision makers
- Create a team to develop or adapt district and or school-wide genAI academic guidelines
- Review current EdTech providers deploying GenAI

2

Develop Your Staff

- Provide professional development on genAI .
- Share draft district genAI academic guidelines draft for feedback
- Support teachers in integrating genAI into their syllabi & classroom policies
- Support teachers in shifting traditional assessments to genAI-resistant, genAI-assisted, & genAI-partnered versions

3

Educate Students & Community

- Build common understanding school-wide events that include the community.
- Review guidelines in classrooms along with syllabi & examples of appropriate & inappropriate student use.
- Implement genAI literacy training .
- Provide ongoing opportunities for professional learning to teachers and the school community

4

Assess & Progress

- Create a plan for review and improvement in light of genAI advances.
- Evaluate new genAI tools in a timely manner.
- Update, train & provide opportunities to share.
- Elevate best practices for GenAI adoption.



Human Capacity

This section focuses on:

- Defining AI Literacy for staff and students
- The importance of providing training for staff
- AI Literacy Recommendations by Grade Span
- No AI interaction required lessons



Curriculum and Instruction

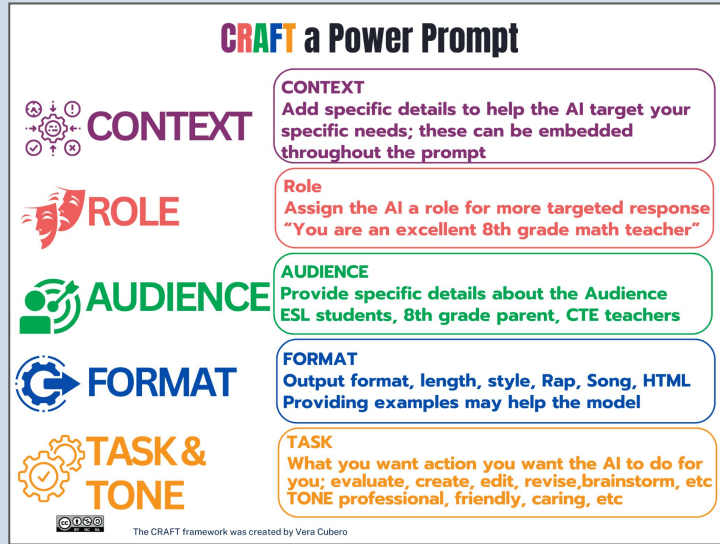
This section provides guidance on integrating generative AI into the curriculum while ensuring responsible and ethical use and many ready-to-use frameworks and resources.

- Concerns & Limitations: highlights the need to ensure more accurate responses, use AI responsibly
- Rethinking plagiarism and cheating in the age of AI including cautions against relying on AI Detectors
- Strategies to Ensure More Accurate Responses from LLMs
- How to Use AI Responsibly EVERY Time Framework
- Use cases for teachers and students
- Guidelines & precautions for using AI to assess student work.



Ready to Use Resources

CRAFT prompting Framework



Strategies To Ensure More Accurate Responses from LLMs

While there *is currently no way to completely eliminate the potential for inaccuracies/hallucinations in LLM models*, the end user can help ensure more accurate information with these prompting strategies.

- 1 Give Clear, Specific Instructions**
 - Use precise and concise language
 - Avoid ambiguity or vague language
 - Just as if you were directing an assistant, provide enough detail to get exactly what you want.
- 2 Ask AI to adopt a persona/ take on a role**
 - Think, 'who would have expertise on this task?'
 - Tell model 'You are a(n) [expert marine biologist]'
- 3 Provide examples & Use delimiters**
 - Provide examples for the model to base response on
 - Use delimiters such as triple quotes to indicate distinct parts of the input such as examples
 - Ex: The text of the bill is in """" below; Format the responses like this """" Term: definition-analogy""""
- 4 Chunk Inputs and Outputs**
 - Split complex tasks into smaller tasks
 - Specify the steps needed to complete the task
 - Allow the model time to 'think'
 - Tell it to answer step by step so you can monitor for accuracy.
- 5 Provide reference Material**
 - Help avoid inaccurate responses by specifying a reference text
 - Depending on the model used, this can be text pasted in, referencing a URL, uploading a file, image, etc.
 - Ex: Paste in the text of an NC SCOS standard, paste in a URL as reference, paste in text of passage to ask questions about, etc.

Vera Cubero (NCDPI)

Strategies for More Accurate Responses



Ready to Use Resources

AI for Education

How to Use AI Responsibly **EVERY** Time

E **VALUATE** the initial output to see if it meets the intended purpose and your needs.

V **ERIFY** facts, figures, quotes, and data using reliable sources to ensure there are no hallucinations or bias.

E **DIT** your prompt and ask follow up questions to have the AI improve its output.

R **EVISE** the results to reflect your unique needs, style, and/or tone. AI output is a great starting point, but shouldn't be a final product.

Y **OU** are responsible for everything you create with AI. Always be transparent about how you've used these tools.

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How to Use AI Responsibly **EVERY** Time



Credit: AI for Education <https://www.aiforeducation.io/ai-resources/how-to-use-ai-responsibly-every-time>

Ready to Use Resources

Can I Use AI on this Assignment? Generative AI Acceptable Use Scale

Generative AI refers to any of the thousands of Artificial Intelligence tools in which the model generates new content (text, images, audio, video, code, etc). This includes, but is not limited to, Large Language Models/LLMs such as ChatGPT, Google Bard, etc, Image creators such as Dall-E3, Adobe Firefly, and any tools with built in generative AI capabilities such as Microsoft CoPilot, Google Duet, Canva, etc etc)

	Level of AI Use	Full Description	Disclosure Requirements
0	NO AI Use	This assessment is completed entirely without AI assistance. AI Must not be used at any point during the assessment. This level ensured that student rely solely on their own knowledge, understanding, and skills.	No AI disclosure required May require an academic honesty pledge that AI was not used.
1	AI-Assisted Idea Generation and Structuring	No AI content is allowed in the final submission. AI can be used in the assessment for brainstorming, creating structures, and generating ideas for improving work.	AI disclosure statement must be included disclosing how AI was used. Link(s) to AI chat(s) must be submitted with final submission.
2	AI-Assisted Editing	No new content can be created using AI. AI can be used to make improvements to the clarity or quality of student created work to improve the final output.	AI disclosure statement must be included disclosing how AI was used. Link(s) to AI chat(s) must be submitted with final submission.
3	AI for Specified Task Completion	AI is used to complete certain elements of the task, as specified by the teacher. This level requires critical engagement with AI generated content and evaluating its output. You are responsible for providing human oversight and evaluation of all AI generated content.	All AI created content must be cited using proper MLA citation. Link(s) to AI chat(s) must be submitted with final submission.
4	Full AI Use with Human Oversight	You may use AI throughout your assessment to support your own work in any way you deem necessary. AI should be a 'co-pilot' to enhance human creativity. You are responsible for providing human oversight and evaluation of all AI generated content.	You must cite the use of AI using proper MLA or APA citation. Link(s) to AI chat(s) must be submitted with final submission.

Adapted by Vera Cubero for the North Carolina Department of Public Instruction (NC DPI)
from the work of Dr. Leon Furze, Dr. Mike Perkins, Dr. Jasper Roe FHEA, & Dr. Jason McVough
[Link to Original Work](#)



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An AI Acceptable Use Scale helps build common understanding, clear expectations, and common language around the use of AI by students.

The scale should be referred to clarify what level, if any, is acceptable use of AI on a given task. It should be explicitly taught and posted in visible locations for reference.



AI Detectors

- Use of AI detectors is not recommended because they:
 - Are not reliable
 - Should never be used as the only factor to determine if a student ‘cheated’.
 - Pose a potential risk of damage to students’ well-being, academics, and future with no way to prove their innocence is too great
- Common issues with AI detectors include:
 - a high frequency of false positives for non-native English speakers and creative writers
 - high frequency of false negatives for skilled prompters capable of fooling the detectors



AI Detectors

As AI becomes more ubiquitous there is a need to:

- Rethink Plagiarism
 - Working with AI is now a necessary job skill
- Necessary Pedagogical Shifts:
 - Rethink assignments & assessments to be more AI Resistant, AI Assisted, or AI Partnered
 - Suspicions of inappropriate AI use should be teachable moments to reinforce the responsible use
 - Focus on process of learning, rather than just the end product.
 - Ensure proper communication about appropriate uses of AI on each assignment, referencing an AI Acceptable Use Scale to clarify appropriate level of generative AI per assignment.



Data Privacy and Cybersecurity

This section includes guidelines to ensure that generative AI use in schools complies with federal regulations and that staff and students are trained to protect privacy.

- Ensure all educators have awareness and procedures regarding various laws and regulations such as FERPA, COPPA, IDEA, CIPA, and Section 504
-
- Stresses the need for training and reminders specifically around what Personally Identifiable Information (PII) entails for both staff and students



Data Privacy and Cybersecurity

Conduct a security audit:

- Ensure vendor meets or exceeds applicable security practices, PSU, State, and Federal requirements.
- Understand how the product harvests data for training and continual learning.
- This is critical to help ensure sensitive data or contaminated data is not ingested.

Reviewing and Adapting Guidelines:

- Continuously review and adapt their AI guidelines to keep pace with the rapid evolution of AI technologies.
- Conduct regular assessments of AI practices, potential risks, and emerging trends to maintain responsible and ethical integration.
- Review the company's usage and privacy guidelines.



Technology Infrastructure and Devices

This section focuses on purchasing AI technologies and ensuring that all of the tools used:

- Are Age Appropriate for the User of the AI Technology:
- Comply with Regulations
- Secure Access Controls
- Encrypt and Secure Transmission
- Are Required to Undergo Regular Security Audits
- Meet Clear Data Usage Policies
- Meet Vendor Security Standards



References and Appendix

Appendix

We have provided an appendix that includes vetted, high quality, free online resources to help increase AI literacy for:

- District and school leaders
- Educators
- Students

References

A complete list of all sources reference or cited in the guidelines is provided.

From Guidance to Practice

AI Summit

- Who: PSU Leaders/AI Steering Committee Members
- What: An opportunity to dig into the NC AI Guidance and have conversations around effective and safe practices for implementing AI in K-12
- When:
 - West: Apr 30, 2024
 - East: May 3, 2024



From Guidance to Practice

AI Collaborative

- Who: CTOs, lead teachers, coaches, and other instructional personnel.
- What: An opportunity to learn about and develop materials for AI in K-12 environments.
- 1 west group and 1 east group
- Over 130 individuals are involved across the state
- 78 different PSUs are represented in this collaborative

“Attempting to enforce broad bans on AI is a futile effort that widens the digital divide between students with independent access to AI on personal devices and students dependent on school or community resources. Closing the digital divide in an age of AI still begins with internet connectivity, device availability, and basic digital literacy.”

TeachAI Toolkit

Questions and Discussion