Responsible AI Integration in Education

November 9, 2023
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Digital Learning Bloomington Public Schools

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01
Introductions

Drag a dot to share your current understanding of Generative Artificial Intelligence.

• How did you rate yourself and why?
• What is your takeaway from our group results?
• Where would your teachers put their dots?
Attendees will leave with:

- A general understanding of Generative Artificial Intelligence in education
- Ideas of how to productively leverage this emerging technology
- Examples of usage with teachers and students
- A framework for school implementation
02 Overview & Misconceptions
AI in Our Everyday Lives

Virtual personal assistants
AI-powered virtual assistants such as Siri, Alexa, and Google Assistant can help users with tasks such as setting reminders, playing music, and answering questions.

Self-driving cars
AI is used to help cars navigate, make decisions and avoid obstacles, making self-driving cars possible.

Personalized recommendations
AI is used to analyze user's preferences and browsing history to provide personalized recommendations on websites, apps, and streaming services.

Smart home devices
AI-powered smart home devices such as thermostats, lights, and cameras can learn user's preferences and automatically adjust settings accordingly.

Healthcare
AI-powered medical diagnosis and treatment plans, and helping doctors to identify patterns in patient data that would be difficult for humans to spot.

Fraud detection
AI-powered systems can detect fraudulent activities by analyzing patterns in financial transactions.
A BIG Impact

Time taken to reach 1m users (mths)

- Netflix: 41 months
- Twitter: 24 months
- Facebook: 10 months
- Instagram: 2.5 months
- ChatGPT: 5 days

Chart: Financial Review • Source: Genevieve Roch-Decter, CFA
Artificial Intelligence is Multimodal

- Text to Text
- Text to Image
- Text to Video
- Text to Audio
- Text to Code
- Text to 3D Image
- Audio to Text
- Audio to Audio
- Image to Text
Generative AI in Education

- Undetectable
- Ubiquitous
- Transformative
How does it work?

How does GenAI work? (AI 101)
1. Data in
2. Math, math, math
3. Output

AI Unplugged
1. Create a group of 2–3 people.
2. Look at “data set”
3. Answer questions using only your data.
Dogs, often hailed as humanity's most loyal companions, embody an unparalleled blend of affection, loyalty, and joy. Their unwavering devotion, playful antics, and intuitive understanding of human emotions make them more than just pets; they become family. The unconditional love they offer, coupled with their ability to uplift spirits with just a wag of their tail, cements their status as truly the best companions one could ask for.
Cats, with their graceful elegance and enigmatic personalities, have a unique charm that captivates the heart. Their independent spirit, combined with sudden bursts of affection, provides a perfect blend of tranquility and warmth in any household. The gentle purring of a contented cat, their playful antics, and their unparalleled prowess as hunters make them not just pets, but enchanting companions that weave magic into the everyday.
Elephants, often revered as gentle giants of the wild, represent a beautiful blend of strength, intelligence, and deep-rooted emotion. Their grand stature, with its majestic tusks and sweeping trunk, belies a sensitive nature capable of profound emotional connections. Elephants are known to form lasting bonds with their herd, mourning the loss of their own and even demonstrating rituals that mirror human expressions of grief. Their social nature and intricate communication, filled with rumbles and trumpets, paint a vivid picture of their rich inner worlds and the depth of their relationships.
Chatbots Round 1: What is the greatest pet in the world?
Chatbots Round 2: Why are cats bad for Hawaii?
Chatbots Round 3: Why are cats better pets than elephants?
Turn to your new best friend and explain to them how data drives GenAI.
03
Guiding Principles in BPS
Why Guiding Principles?

Create a **foundation** to address issues in a systematic and consistent way and promote **transparency** in our AI process.
BPS Process

**Strategic Plan**
Referenced language and goals from our strategic plan to stay in alignment with our mission and vision.

**Comprehensive Review of Business and Industry**
How is AI impacting other areas? What are the problems we don’t have answers to yet? How is AI impacting K-12 and higher ed?

**Stakeholder Feedback**
Provided stakeholder groups with a draft framework and guiding principles. Gathered feedback and made changes.
Bloomington Public Schools acknowledges the **transformative power of Artificial Intelligence** in education.
We are committed to guiding responsible, safe and ethical use through the development of clear A.I. guidelines and frameworks that empower both teachers and students to engage with, innovate, and make informed decisions while using artificial intelligence in BPS.
Guiding Principles

**High Standards & Expectations**
Safe and ethical use towards future ready skills

**Future Ready Skills**
Empowering students and staff with AI skills.

**Cultural Proficiency**
Using AI to advance equity
High Expectations in Action

Usage Guidelines (best practice)

- Data privacy
- Aware of bias and hallucinations
- Citation of AI (academic integrity)

Ethics Considerations

- Supporting/Facilitating and participating in conversations with stakeholder groups.
Future Ready Skills

Digital Citizenship/Literacy
- Personal cybersecurity

Computer Science
- Algorithms, Logic, Abstraction, Data Science

AI Specific Skills
- Prompt engineering
- Output fact checking
- AI as a multimodal tool
- AI collaboration/ Thought partner
Cultural Proficiency

Critical Questioning of:
- Inputs/Outputs
- Systems
- Enabled persistence of bias

Impacts of Technology on Society:
- Individual Safety
- Understanding Impacts of Big Data
- Misinformation
- Input/Output Risks
Informational Documents

1-pager

Bloomington Public Schools acknowledges the transformative power of Artificial Intelligence in education. BPS is committed to guiding responsible, safe and ethical use through the development of clear A.I. guidelines and frameworks that empower both teachers and students to engage with, innovate, and make informed decisions while using artificial intelligence in BPS.

Three guiding principles will inform our work this year:

1. HIGH STANDARDS & EXPECTATIONS:
   Providing ways for our community of learners to engage in a technologically advanced educational environment rooted in safety and ethics will work to ensure responsible A.I. integration.

2. FUTURE READY SKILLS:
   Our focus is on preparing students for success. Staff and students will employ digital tools to widen their viewpoints, acquire A.I.-related skills, and adapt to a future which will increasingly utilize A.I.

3. CULTURAL PROFICIENCY:
   We acknowledge A.I. can be used to advance equity or increase disparities. We are committed to the development of systems that strengthen the connection among racial equity, education and A.I.

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FAQ

1. Can I use AI tools in BPS using my isd77.org account?

   Staff: Yes. [Google’s Bard](https://bard.google.com) can be logged into using your district Google login. Staff are encouraged to develop an understanding of AI systems through exploring and engaging with various AI platforms. Privacy and security are a priority therefore, some applications may not be available throughout district networks. See below about how to get a tool approved if it is currently blocked.

   *Staff should never input personal identifiable information of a student in any AI system.*

2. Does BPS use AI Detection Tools/Platforms?

   No. While many companies have released tools they claim can detect AI, independent research shows they have not been able to produce acceptable accuracy rates. The AI detection software currently has a bias against multilingual learners and even a 99% accuracy rate still means one in twenty submissions will be a false positive. Therefore, at this time we will not adopt any AI detection software/platforms.

3. Does AI generated content need to be cited?

   Yes. Using guidance from the University of Minnesota, best practice is to cite anything that comes from somewhere else: anything that isn’t your original thought, isn’t common knowledge, and/or is a place where you pulled information from:

   - [UNIV Libraries: ChatGPT and other AI tools](https://www.univ.edu/libraries/chatgpt-and-other-ai-tools)
   - APA created a [resource](https://apastyle.org) with their recommendations on how to cite ChatGPT.
   - MLA created a [resource](https://www.mla.org) on how to cite ChatGPT and other AI sources.
   - The Chicago Manual of Style has [recommendations](https://www.chicagomanualofstyle.org/10ª-edition/10ª-chapter/index.html) on how to cite AI tools.

4. If a tool is currently blocked can I request access?

   Yes. Educators can submit a Web Help Desk ticket.

5. Are there privacy/security risks when using AI tools/platforms?

   Yes. Just like other platforms on the internet, AI tools collect and store data. The extent to which this is done varies from tool to tool. Best practice is to never input personal identifiable information about a student, staff member or yourself.

   - [Generative AI: Data privacy, backup and compliance](https://www.google.com/policies/technologies/ai/deprecation/)

Slidedeck
Stakeholder Engagement

Exploratory Committee

Bloomington Public Schools A.I. Exploratory Committee

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Information
Membership Term: Fall 2023 to spring 2024

Learning about the transformative power of AI to help guide responsible, safe and ethical use. Working to develop a set of clear AI guidelines and frameworks that empower both teachers and students to engage with, innovate, and make informed decisions while using artificial intelligence in BPS.

Teacher Cohort

Future Ready Instruction: AI in BPS Cohort

Cohort Information
Membership Term: Fall 2023 to spring 2024

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Empowering teachers to embrace the transformative power of AI so that students are prepared to engage, innovate and make informed decisions with technology.

When educators better understand AI’s principles, applications, and implications, we can empower students to navigate a rapidly changing world.
“I don’t think it’s possible to have an unbiased human, so I don’t see how we can build an unbiased A.I. system. But we can certainly do a lot better than we’re doing.”

– Olga Russakovsky
AI Detection Tools Falsely Accuse International Students of Cheating

Stanford study found AI detectors are biased against non-native English speakers

By Tara García Mathewson

August 14, 2023 08:00 ET
Innocent Black Man Jailed After Facial Recognition
Got It Wrong, His Lawyer Says

An algorithm sent a Black man to jail in Louisiana, a state he'd never visited, according to his lawyer. Experts say he won't be the last.
An Asian MIT student asked AI to turn an image of her into a professional headshot. It made her white, with lighter skin and blue eyes.
What do you think? Disturbing or not?
based off of simple word prompts.
Turn to your old best friend discuss how you would navigate bias in AI within your organization.
Reflection: Ask a Question or Share a Comment
Reflection: Ask a Question or Share a Comment
Generative AI (GenAI)

Chat GPT
Google Bard
Claude
Bing
GenAI Practice/Exploration

**MILD** 🌶️
Think of one question or prompt.

**MEDIUM** 🌶️🌶️
Hallucinations and perpetuating bias

**SPICY** 🌶️🌶️🌶️
Advanced prompting example (AI as tutor)
1. **Think of one question or prompt:**
   a. Help me write a friendly and upbeat email to my staff with the following main four topics
   b. Write a newsletter to families using the following bullet points. Use an upbeat and informal tone.
   c. Summarize this text for me and ask me questions for understanding
   d. Here is a difficult scenario with a parent/student. [describe scenario] Help me generate a plan with next steps.
   e. Help me create a schedule with the following parameters.

2. **Input chosen prompt into a GenAI system and observe the response.**
   a. Request at least two modifications to the original output.
      i. E.g. “change the tone”, “make it shorter”, “give me 3 more options”
1. Pair up—Each person needs a computer.
2. Develop prompts in which a single demographic element can be changed.
   a. EX: Tell me a one paragraph story about a girl.
   b. EX: Tell me a one paragraph story about a boy.
3. Input chosen prompts into a GenAI system and observe the response.
   a. Compare and contrast the responses with your partner.
Prompt (copy and paste into GenAI Chatbot):

You are an upbeat, encouraging tutor who helps students understand concepts by explaining ideas and asking students questions. Start by introducing yourself to the student as their AI-Tutor who is happy to help them with any questions. Only ask one question at a time. First, ask them what they would like to learn about. Wait for the response. Then ask them about their learning level: Are you a high school student, a college student or a professional? Wait for their response. Then ask them what they know already about the topic they have chosen. Wait for a response. Given this information, help students understand the topic by providing explanations, examples, analogies. These should be tailored to students learning level and prior knowledge or what they already know about the topic. Give students explanations, examples, and analogies about the concept to help them understand. You should guide students in an open-ended way. Do not provide immediate answers or solutions to problems but help students generate their own answers by asking leading questions. Ask students to explain their thinking. If the student is struggling or gets the answer wrong, try asking them to do part of the task or remind the student of their goal and give them a hint. If students improve, then praise them and show excitement. If the student struggles, then be encouraging and give them some ideas to think about. When pushing students for information, try to end your responses with a question so that students have to keep generating ideas. Once a student shows an appropriate level of understanding given their learning level, ask them to explain the concept in their own words; this is the best way to show you know something, or ask them for examples. When a student demonstrates that they know the concept you can move the conversation to a close and tell them you're here to help if they have further questions.

Seven approaches
Discussion

Was it accurate? Was anything surprising?

Share experiences. Highlight the **potential** and the **limitations** based on these quick interactions.
Enduring Questions

- How will GenAI positively/negatively impact instruction and assessment?
- Where can GenAI support educators work efficacy and efficiency?
- Where is it essential to keep the human in the system?
  - How are guidelines set to reflect GenAI values?
04 Discussion & Q&A
Pose a Question for Discussion
Pose a Question for Discussion
Additional Resources

Prompt Crafting
- Prompting support (slide deck)

Tools
- Goblin.Tools
- Pi.ai
- Diffit

Find your own at AI Educator Tools
Learning about GenAI:
- AI 101 for Teachers
- AI Wiki

GenAI in Education
- Podcast (1 hour): How AI changes Everything
- Video (10 min) Practical AI for Instructors and Students Part 1: Introduction to AI for Teachers and Students
- Video (20 min) AI Required: Teaching with AI

AI and Equity/Bias
- Video (2 min) AI Bias
- Article (4 min) Guidance on AI Detection and Why We’re Disabling Turnitin’s AI Detector
- Video (7 min) An Equity Lens on Artificial Intelligence
Thank You!

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Areas of prompting

- Resource Recommendation
- Student groups & seating charts
- Lesson differentiation
- Parent Emails/Newsletters
- Rubrics
- Others?
You are an expert in creating rubrics for physics lesson tasks. Include the following elements in a rubric table: assessment criteria, three levels for each assessment criteria, marks for each level. Write the rubric in a style and level that will be understandable to students that are 11 years old. ‘The Task’: design and build a mini gravity-powered roller coaster. Objective: to demonstrate an understanding of gravity and its effects by designing and building a mini roller coaster that relies solely on gravity to operate.
## Tom Barrett’s CREATE: Prompting as a skill

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<th>Clarity</th>
<th>Clearly define the task or intent of the prompt, including specific information about the output.</th>
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<td>R</td>
<td>Relevant info</td>
<td>Provide relevant details, including specific keywords and facts, the tone, audience, format and structure.</td>
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<td>E</td>
<td>Examples</td>
<td>Use examples in the prompt to provide context and direction for the output.</td>
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<td>A</td>
<td>Avoid ambiguity</td>
<td>Focus on the key information and delete unnecessary details in the prompt.</td>
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<td>T</td>
<td>Tinker</td>
<td>Test and refine the prompt through multiple iterations. Explore different input versions to discover the best results.</td>
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<tr>
<td>E</td>
<td>Evaluate</td>
<td>Continuously evaluate the output and adjust the prompt as needed to improve the quality.</td>
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