

# **Keeping Perspective: Focusing on HI (Human Intelligence) When AI Is Everywhere**





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# Introduction

**As Artificial Intelligence (AI)** makes an impact across every industry, educators are working to navigate the complexities of this new, powerful technology. In a survey conducted during an AI webinar in fall 2023, 78% of educators responded that they were both excited and concerned about AI in education. This curious, but cautious, attitude toward AI is a clear indication that educators hope to make use of new technologies responsibly. They recognize that it's critical to incorporate AI in ways that enhance learning without compromising the value of human interactions, pedagogy, and ethical considerations.

In this resource you can discover background about AI, positive and negative examples for AI uses, and how AI “thinks”. It will also outline strategies to keep perspective by prioritizing Human Intelligence to guide students toward becoming critical thinkers, problem solvers, and compassionate individuals while responsibly using AI as a tool in their journey.

# Real-World Examples for How AI use can be Helpful, Limiting, and Concerning

We have a wealth of AI-powered tools that can offer unprecedented opportunities to enhance everything from tasks in our daily lives to education. The following examples demonstrate how AI can improve our lives, while also highlighting why human intervention with AI can be critical.

## Examples of Good AI Uses

### Using Chat GPT for time-consuming tasks:

Many people have found AI helpful for activities like reformatting citations, creating prompts for thought starters, developing slides for a presentation, or brainstorming lesson plans. When used in this manner, AI helps users save time on day-to-day tasks and enables them to refocus efforts on projects in which AI may not be as useful.

### Using AI for guidance on a project:

AI programs, like Pi (personal assistance AI), can be a great resource for helping solve problems, access information quickly, and ask clarifying questions. These types of bots also can adopt a conversational and encouraging tone to help the user feel motivated and comfortable exploring more.

### Using AI to follow text instruction:

When prompted, AI can follow directions and execute quickly. For example, a user can ask AI to describe an image in three, six, and nine words, and the software can complete this task in seconds with attention to detail. One use for this type of activity could be to provide better accessibility for visually impaired individuals.

**Three words:** Seaside dining table

**Six words:** Dining table overlooking ocean with beer

**Nine words:** Outdoor restaurant table with ocean view and a beer



# Examples of AI Limitations

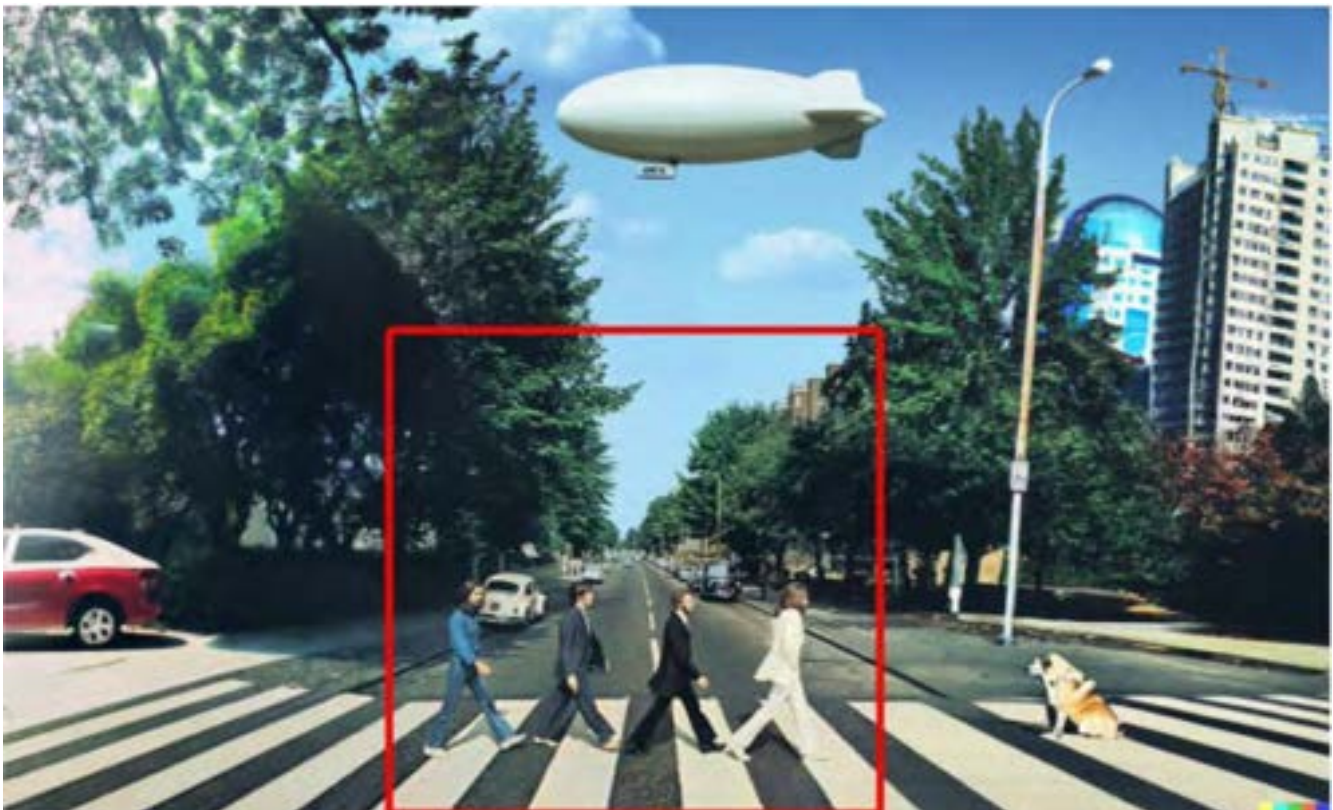
## **AI doesn't always understand nuances:**

When a user asked ChatGPT to reference the Taco Bell calorie menu to create a balanced, 1000-calorie meal suggestion, the software suggested a 920-calorie meal that consisted mostly of beverages and hot sauces. While the calorie count was accurate, AI couldn't provide the user with a "balanced" meal.

## **AI may not always provide appropriate contextual information for images:**

While it is possible to generate an image beyond the frame of an existing photograph, AI may take creative liberties, and those results aren't necessarily accurate, or even realistic. In the wrong context, this can lead to misinformation.

[With AI] it's now possible to generate the entire rest of a photo in seconds.



# Examples of Concerning AI Behaviors

## AI can generate harmful behavior learned from users:

Tay, also known as "TayTweets," was a Twitter-based AI chatbot created by Microsoft. Tay was intended to interact in a playful and youthful manner.

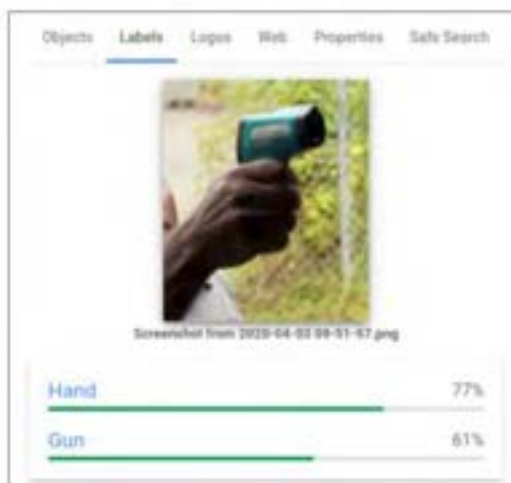
Within hours of its launch, Tay started producing offensive and inappropriate tweets, including racist, sexist, and inflammatory content. It learned these behaviors from interacting with users who deliberately tried to provoke the bot and teach it offensive language and viewpoints.

Microsoft had to shut down Tay within 16 hours of its launch. This incident highlighted the challenges of developing AI systems for natural language understanding and generation and the importance of carefully monitoring and controlling their interactions with the public, as well as the potential risks of biased or harmful behavior learned from internet users.

Another example of this surfaced with the AI-generated animated parody Nothing, Forever. The show uses AI models to produce an endless stream of Seinfeld-like episodes on Twitch. However, it was temporarily taken offline due to an anti-LGBTQ outburst generated by the AI.

## AI adopts prejudices and biases from its data inputs:

AI does not recognize any object in the human sense, instead it relies on patterns that were relevant in the training data. In an experiment by AlgorithmWatch, Google's Vision AI labeled an image of a dark-skinned individual holding a thermometer as a "gun", while a similar image featuring a light-skinned individual was labeled as a "Monocular".



# Applying Human Skills to Technology

Like AI, and all the technology before it, a central purpose has always been to help humans perform tasks faster, with more accuracy, and at scale. Another great example of this is the calculator. A student inputs information into the machine, the calculator follows a set of coded instructions, and then quickly produces a result. The calculator does a great job cutting down a manual process and frees up time for users to focus on bigger ideas.

When calculators first came into classrooms, many math teachers were concerned. They worried students would rely too much on the technology, or students would focus too much on the answer and not the mathematical concepts.

However, to effectively use a calculator, students must know what to input into the calculator and they must be able to recognize if their input produces the right output. The tool can only give students correct answers if they apply the critical thinking and analysis they've learned before the calculator became available.

Similar to the calculator, humans must provide the right inputs, apply the same critical thinking, and carefully analyze outputs for AI tools. However, while a calculator uses number systems with well-defined, consistent rules, AI often uses large language models, a far more complex and less logical model.

## How does AI work?

### A Quick Definition of Large Language Models

1. **ChatGPT and other generative AI software use large language models (LLM). These models work by processing large amounts of text data to learn patterns between words and phrases.**
2. **LLMs use word vectors, which organize words with similar meanings closer to each other, to capture the context, semantics, and associations between words in the text data they are trained on.**
3. **The models use this knowledge to generate human-like text based on input prompts by predicting the next word in a sequence and generating coherent and contextually relevant responses.**



# Does AI mean that machines can think?

Machines can perform tasks like processing data, understanding language, and recognizing patterns. Machines do all of these complicated tasks without feeling or awareness. While they make it seem like they are thinking, they execute these tasks through programmed instructions or algorithms that humans have developed.

As a result, the accuracy of technology like AI can hinge on the accuracy of the models, algorithms, and instructions humans have provided. These tools are regurgitating what others have said or written, and they are limited to the text they're trained on.

This is not dissimilar to human experience; our knowledge is often shaped by the books we've read, the places we've lived, our life experiences, and the news we've consumed. Like AI, what we have access to and the experiences we have, inform how we grow and what we know.

## **How can we prioritize human intelligence?**

All of the inputs we provide to AI programs inform its outputs. So, just as we ask ourselves why it's important that we provide the information and data to AI programs, we must apply that question to how we're educating young people. What opportunities are we giving students? What are we giving them to think with? What context and experiences should they have to inform their outputs?

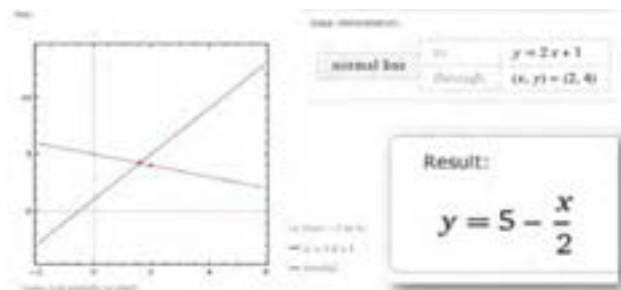
In this new age of AI there are going to be deep fakes, false information, and other risks, which means it's even more important to train students to think critically about the outputs of technology. Whether students are analyzing an AI-written article, or an article written by a human, they need to have the skills to assess the validity of that content and respond appropriately.



# Making Lessons and Assessments for Humans

Before the generative AI conversations of 2023, programs like Wolfram Alpha quickly and easily solved text problems like:

**What is the equation of the line perpendicular to  $y=2x + 1$  through  $(2,4)$ ?**



The program did a great job, and teachers agreed that if they were to grade this as a test, Wolfram Alpha deserved an A. Educators realized it was time to rethink some things. If Wolfram Alpha can get an A on the test, then we need to make a better test. Today, we can apply this same approach to ChatGPT- if ChatGPT can get an A on the test, we need to make a better test. We can do this today by engaging students in tasks that AI can't do or write about.

**Below, we've provided some examples for making lessons and better assessments for humans.**

Curiosity makes us human, so invite and assess students' questions, not just their answers.

- Ask students to write two questions they're wondering about <character/situation/event>.

Give students genuine situations and engage and honor their intuition, ideas, and what occurs to them.

- Have students describe what they notice and how they would respond to <character/situation>.

Include personal connections for analogy and illustration in their work because AI doesn't know about their friends, family, and community.

- Ask students to compare how <character/situation> is similar to someone/thing they've experienced.

As educators, there is a humanity we can bring to learning. By using AI to help guide learning, complete tasks, or explore ideas, we can better focus on areas that need the human touch. We can use AI to better prioritize time, and help students learn things they can't get from Chat GPT. You can watch a recorded version of this presentation [here](#).