Is it Monday Yet? 1/31/23

Artificial Intelligence as a Barrier to Developing *Actual* Intelligence

This is a lengthy one, so I thought an executive summary would help:

- In November, OpenAI released ChatGPT to the public.

- It is possible for a student to use this AI bot to write an entire essay in a way that is currently undetectable by apps used to authenticate original work.

- Many people believe that students should be allowed to use ChatGPT at different stages in the writing process (brainstorm, outline, or even compose a first draft).

- I do not think this is a great idea. I conclude by offering some ways we might use such a tool, suggesting how we can inoculate students from misusing technology, and asking the tech industry for a favor.

- I first heard about ChatGPT from a MS student while I was supervising a gaga game, and while I have zero evidence that ChatGPT is a problem at Ashbrook, I think it'd be naive to say our kids have not ventured into these waters.

- As a staff, we are just starting to have discussions about this tool and will eventually need to codify policies consonant with our mission and our efforts to provide the best possible student experience. In the interim, here is my personal opinion.

Full disclosure: a human being, not an artificial intelligence bot, wrote this article. Though I have to admit I was tempted to try ChatGPT, I regret we're at a place in our development as human beings and as users of technology that such a disclaimer will become increasingly relevant.

That said, given what I want to say about the use of AI as a student resource, at this admittedly early stage of my full understanding of this technology, I am not entirely sure that ChatGPT would've been sympathetic to my position and, who knows, by the end of the day I might have found my driver's license suspended, my citizenship revoked, my bank account drained, and my subscription to Luddite Monthly canceled. If you doubt the ability of AI to defend itself, take a gander at this op-ed article published in the Guardian almost three years ago, produced entirely by an earlier generation chatbot prompted to write a 500 word piece to convince readers that robots come in peace.

Fast forward to cutting edge AI technology and my inspiration for writing this month. In November 2022, OpenAI launched ChatGPT (Generative, Pre-Trained Transformer). Media outlets and public policy bellwethers no less lofty than the New York Times, the Brookings Institution and the LA Times are SO smitten with the technology that they are falling over themselves in an effort to convince the rest of us that ChatGPT is good news for schools and that teachers should use it to improve the student experience. By far, the majority of the articles resulting from my Google search were clearly in favor of teachers taking the time to retool their lesson plans to make room for ChatGPT in their classrooms in ways that just don't make sense to me: to brainstorm an essay from a prompt, to generate outlines for an essay, and even to write first drafts.

What ends up sounding like an "if you can't beat 'em, join 'em" argument falls flat to those of us who have spent time interacting with other human beings as parents or as teachers, and ends up sounding more like "the camel's nose under the tent." Policy pundits and reporters racing to make a name for themselves by taking the position of "hey, it's coming, schools might as well climb onboard," should spend a week working with students who are struggling to learn how to represent their thoughts through the written word, or talk with their teachers who know what they need and, maybe more importantly, what they do not need.

If it is not clear enough at this point, let me be clear: I am not a fan of ChatGPT as an instructional resource, at least not in the way it's currently being promoted. Clearer still, it is my opinion that if a person, student or otherwise, makes a choice to publish, submit, or post work (including writing, images, video, or audio recordings) as original work, but which in reality, was produced by an AI bot, no matter where in the process the AI button was pushed, and no matter how significant the revision following the pushing of the button, they have committed an act of what used to be called plagiarism. Indeed, in the case of the written word, even ChatGPT has not "written" the essay, but has simply scraped the

Internet to find the writing of others. Defenses against AI plagiarism, such as "another *person* did not write the paper, a *program* did, so this is not plagiarism," are so fatuous as to be infantile, are a bit offensive, and miss the point so entirely that they provide all the incentive one would need to climb on the bandwagon I am currently pushing.

Arguments supporting how teachers should lighten up and get with the times are asking educators to forget everything they know about what it takes to teach students how to write and, more importantly, how to apply, synthesize, and evaluate information: in a phrase, how to think critically. Bigger picture: the use of AI, in the ways currently being shilled, will incentivize students to simply repurpose the work of others. Like the song of the Sirens, the allure will be relentless and difficult to resist. The rocks we will crash on will be the gradual and inexorable decline in innovative thinking, breakthrough research, the definitively human instinct to ask, "What if?" and the intellectual courage that makes it possible to write and speak with conviction to share informed original thought.

And the part that worries me the most? The first person who told me about ChatGPT was a middle school student as I was doing recess duty supervising a robust game of gaga.

Those who would have teachers shift their pedagogy to make room for AI by suggesting that students of writing use it to brainstorm, outline, or first draft, have ignored everything we know about writing instruction and brain science. Have the people offering these opinions ever worked with a student who is trying to revise their own work? As many teachers will attest, and as those who have seen AI generated writing will tell us, revision in this scenario will be little more than window dressing. On top of this, such a method would preempt the hard work that goes into generating an original idea or doing the reading, writing, and thinking…the cognitive acts necessary to support thinking leading to original ideas.

In terms of brain science, we know that neural pathways are more firmly set down when the human brain has to work hard via multiple channels to learn the ideas; the harder one works to get it in there, the stickier it is. As a friend of mine recently intoned, those neurons that fire, wire (to which I would add, those neurons that fire and tire, wire). This is why hand-writing notes rather than keyboarding them is a better method of learning the material, and why Quizlet is not as effective a study resource as old-school creating your own index card flash cards.

In the vein of "you cannot unring the bell," allowing AI to brainstorm, outline, or first draft, will absolutely co-opt the original thinking of any student because they will naturally defer to the authority of AI rather than to their own thinking. They will have been robbed of the gift of working hard to come up with an original thought, no different than if they had ordered an essay from an online paper mill.

In an effort to extol the creativity of one teacher and to hold her up as a model for others to follow for the innovative way she incorporated ChatGPT into her classroom, the New York Times recently shared a story about how

> … a high school English teacher …recently assigned students … to use ChatGPT to create outlines for their essays comparing and contrasting two 19th-century short stories that touch on themes of gender and mental health: "The Story of an Hour," by Kate Chopin, and "The Yellow Wallpaper," by Charlotte Perkins Gilman. Once the outlines were generated, her students put their laptops away and wrote their essays longhand.

In response, I would suggest that by automating one of the most important (arguably THE most important) stages of the writing process, this teacher saved herself a TON of time teaching outlining skills and will most likely have an easier time responding to her students' first drafts. And here is the cost: her students will NEVER EVER have a personal connection with two truly wonderful pieces of writing by Chopin and Gilman. They will never come up with an original thought about these works, as individual pieces or in an effort to draw text-to-text conclusions that are completely their own. They have missed the chance to wrestle with the nuances of works created by other human beings about two intensely human issues or to use this perspective to make sense of their own lives. In fact, because this teacher made this assignment *so easy* on her students and let many others do the heavy lifting then curated by ChatGPT, it is unlikely they will ever again think about these issues in terms of what they wrote, because they did not write it. They simply filled in the blanks, which is not the same thing.

I believe there are some people who would define the choices made by this teacher as cutting edge pedagogy leading to a great outcome, but I am not one of them. What some see justified as a GREAT efficiency model, I see as a dangerous and damaging educational model. To add insult to injury, forcing her students to write longhand, which she likely justified as a way to reduce her students' reliance on technology, or because she misunderstood the research, only compounded the problem by denying them the use of one of THE most powerful tools available to a writer since the invention of pencil: their writing processors.

Proponents of AI's use in the classroom are also quick to compare its potential benefits to the use of calculators in the math classroom. To this I would respond by noting that best practice pedagogy that allows students to use calculators, allow it ONLY after students have reached a level of mathematical understanding that assures that the calculator is merely a time and bandwidth saver. Clearly, AI used in the way advocated by the pro-classroom AI voices will be a time and bandwidth saver, but at what costs to the development of our students' minds?

Comparisons between a word processor and a calculator make more sense (and no, allowing the use of spell check or Grammarly is NOT the same thing as allowing a program to write the entire paper). No math teacher would ever tolerate the suggestion that students should be allowed to fully generate an entire math assignment or demonstrate understanding of a mathematical skill by submitting work resulting from blindly copying numbers and symbols from a formula they did not conceptually understand, into a chatbot. Why would we allow such behavior on the humanities side?

By endorsing AI in this way, those without the experience needed to make such statements are asking educators and parents to abandon their efforts to prioritize the higher order thinking skills that distinguish the way American schools "do school" from how teaching is done in many other nations on the planet: we teach students HOW to think, not what to think. Indeed, many other countries have paid educational consultants from American schools, myself included, to visit their shores to answer this single essential question: Why do so many of our families send their children to American schools, and why do they wait to get to the US to be innovative? Used as some people advocate, ChatGPT would be a dangerous step towards reducing our children to mere memorizers waiting for someone to present them with a real world problem in the form of a multiple choice test.

In the end, it is important to acknowledge that good teachers work hard to help students become what John Bruer, former president of the McDonnell Foundation, defined as knowledge transformers rather than simply knowledge digesters. This means that mere knowledge of facts and figures, while necessary, is far from sufficient. In the best classrooms, memorization is not as important as critical thinking, and one of the most significant problems with many schools today is that they are set up to reward learning facts rather than teaching students to understand and transfer that knowledge to novel problem solving situations, or to develop personal and innovative ways to make sense of their world. In this context, is there a way we can use AI and chatbots to help our students become knowledge transformers? Here are three thoughts in response:

1) The best way to future proof our children is NOT by automatically exposing them to the latest high tech inventions, but for parents to be sure that they learn and practice values such as honesty, integrity, hard work, respect, perseverance, and commitment. Conversely, our instinct to remove technology we think is dangerous or counterproductive from the lives of our children or to limit access, while an understandable response, is more often an adult convenience and less than effective. Finding a way to help our children practice their values in the context of temptations to use these technologies is the ultimate inoculation against their misuse. Thoughtfully introducing technology in small bites and engaging our children in ethical conversations based on their values about the technologies use… and misuse, is the ticket. Furthermore, disallowing the use of technology by

our children by filtering or disabling access once they have stumbled, is not as effective as allowing them to fail forward by giving them a chance to demonstrate its proper use according to your family's values. While this can be tough to manage, it is nowhere near as tough to manage as trying to keep up with the relentless flow of technology our children will always find a way to access.

In this way, values are the bulwark against any temptation, technological or otherwise, when we are not looking over their shoulders. And let's face it, banning ChatGPT (like NYC Public Schools and others have done) or hoping for some technology fix that will help teachers authenticate original student work, will always be a fruitless game of work-around whack-a-mole. Yes, AI is here and our children will have to know about it as an important part of the world they will inherit, but let's give them the high touch skills they need to do so in a productive way.

Students pressured into using such tools or devoid of values will always find a work around as we drive ourselves crazy looking for that silver bullet. Teachers can respond by working hard to come up with truly unique and inherently interesting writing assignments that include room for authentic assessments requiring novel application of what has been learned. Questions like "Write a report on Abraham Lincoln" are begging students to outsource their writing and thinking. As an alternative, "If Abraham Lincoln were alive today, what would he think about school shootings?" would be tougher to outsource, even more so if students were given the "multiple intelligences" option to answer the question through a moot court trial, debate, historic reenactment, TEDTalk, dramatic rendering, or even a piece of visual art. Once such an assignment is made, teachers should ask students to brainstorm, outline, and write a first draft IN CLASS. From this point forward, any significant departure from this foundational work should be closely scrutinized.

In a related vein, I do NOT believe that the college essay is dead, but I do believe that the way we apply to colleges might be, and this may actually be a silver lining. Let's face it, between an inequitable access to prep services, the efforts of paid college counselors, hyper involved and ethically fluid parents, heavy handed essay writing consultants, grade inflation, and now a difficult to account for AI factor, confidence in the ideal of a meritocracy as represented by the college application has, over time, become increasingly misplaced. Taken with the fact that standardized testing as a part of the application process is now optional at many colleges, maybe it is time to completely overhaul what, for many, is a gatekeeper to a piece of the American Dream. Maybe this greater emergence of AI is the "it's about time" death knell to the way we used to "do applications," opening the door to such enlightened and more inclusive methods of assessing student merit and readiness for college by measuring mastery, pure and simple, like that advocated by the Mastery Transcript Consortium. Combined with essays that are written in a

supervised location on the day of the campus visit, this new vision of the college application has the potential to approach something that resembles meritocracy.

2) Maybe there ARE ways to make room for tools like ChatGPT in the classroom, but we're going to have to think a lot harder about that, rather than offering hasty suggestions based on spurious comparisons with earlier technologies (we let them use a calculator… why not ChatGPT?). For example, if a teacher is going to use AI, have it generate an essay AFTER students have submitted their own, and THEN and only THEN, use AI as a way for students to compare their thinking to the thinking of someone else, in this case that someone else being a chatbot. Maybe use AI as a method for generating several versions of a single essay as fodder to train students in peer editing skills (reluctant as they typically are to "criticize" the work of peers, they will have less of a problem critiquing the scrapings of an AI bot). As with many innovations, the answer is going to be more complex than simply advocating for wholesale adoption, and there is likely a middle ground, though I am not hearing any of those moderate voices in the current arena. Let's not so easily resort to the binary thinking of "to use or not to use" but instead spend time coming up with ideas to support WHEN to use it, both in terms of the timeline for individual assignments and in terms of the developmental capacities and needs of students over their time in school (students in 5th grade should not be using it in the same ways 11th graders are using it). And, most importantly, let's involve TEACHERS, as the classroom professionals, in this conversation and provide the professional development needed to get the word out about best practice in a way that is not so desperate, inevitable, top down, and surprising.

3) Finally, and this is perhaps the biggest ask: is it too much to expect an organization like OpenAI to reach out to school systems and teachers *prior to releasing* groundshifting tools such as ChatGPT, for a little bit of a heads up? After the fact efforts such as [this](#), while appreciated, are experienced as too-little, too-late (and, having been written by ChatGPT, a bit off the mark). Maybe I am betraying an incredible ignorance about how these things work, but such a gesture would result in time for educators to do the important thinking that has to happen <u>before</u> such tools are made available to students. The hasty, survival mode thinking that results from being surprised by technologies such as ChatGPT, do little to engender buy-in or partnership, signal to students the level of respect afforded educators, and work to reinforce the the stereotype of an insensitive and aloof tech industry interested in nothing more than profit making. While making profits is obviously an important part of releasing such tools as ChatGPT, it is not the only factor we should expect responsible companies to consider. It's their right to release when they want to… but that does not make it right. Forcing schools to change the tires on the truck as it is barreling down the highway is unfair, morally wrong, and not healthy for children or the nation.

In the end, I guess we should all be thankful that OpenAI did not release ChatGPT in the middle of pandemic-related quarantining and remote learning.