Am I a Dupe? Limitations of AI Systems: What Should Educators Do with Them?

Artificial intelligence applications have been recently getting considerable attention in the news (Bogost, 2023; Huang, 2023). AI applications such as ChatGPT (OpenAI, n.d.), Google’s Bard (Pichai, 2023), and Microsoft’s Bing (Roose, 2023) appear to be surprisingly good in conversing in natural language with humans. Ask these apps a question, and they will respond in linguistically impressive ways.

Educators are already concerned that students will cheat by using ChatGPT to write essays for classroom assignments (Sharples, 2022). If ChatGPT, Bard, Bing, and the like are so intelligent, maybe they will take over jobs that humans do—such as teaching students, reporting news and events, writing computer software apps, providing tech support for businesses, and writing novels and poetry. Should we be concerned?

The pattern of anticipated success of AI, high expectations for it, and its failure to deliver has recurred several times in the past 60 years (Deng, 2018; Dreyfus, 1992). For example, in the 1980s, expert systems and neural networks were gaining traction (Neapolitan, 1990; Winston & Prendergast, 1984), much like current anticipations and expectations of ChatGPT, Bard, and Bing. Déjà vu?

Frick (1991; 2020) utilized a systems perspective when examining the use of computer technologies in education. He emphasized that teachers should serve a central role in selecting and sharing the best of culture. Nowadays, that culture is likely to contain AI systems.

From a systems perspective, AI is limited by what it can experience. The environment with which an AI system interacts and learns from is constrained mostly to linguistic signs that are isolated from corresponding real-world objects, activities, intentions and emotions that those signs represent. Bruner (1990) had concluded that AI systems will not be able to learn and interpret meanings of signs they manipulate unless those AI systems are truly embedded interactively in the cultural environment in which those linguistic signs are used. “In other words, computer systems will somehow need to ‘live in’ and experience the culture with us” (Frick, 1997, p. 119).

Is this limitation still true today, given recent advances in AI such as ChatGPT? I propose to address this issue from a systems perspective of education. Given the limitations identified, I propose to address further the question of what educational technologists and teachers should be doing with these AI systems.

Concerns have already been identified that include student cheating, i.e., submitting written work that is not their own but written by an AI agent (Sharples, 2022; Huang, 2023). Word-
processing apps already do grammar- and spell-checking of what we write. We seem to accept that now. Nonetheless, we are occasionally surprised and embarrassed when we fail to notice that the automatic spell-checker has made an inappropriate correction which significantly changes the meaning of the message we are trying to convey to readers.

What if we take this one step further. Imagine that ChatGPT becomes a further tool for users of Microsoft Word, for example. It might write several paragraphs for us, based on a task we tell it to do. This seems to be no different in principle than use of tools for spell- and grammar-checking, text-formatting, image-editing, and the like.

What about further use of search tools such as Google or Bing to help with fact-checking? What about use of ChatGPT to create a first draft? Since the invention of the printing press over 500 years ago, we have not banned student use of book technologies for doing their research and writing. We use calculators to do arithmetic. So why not use ChatGPT to facilitate writing?

I propose to address these kinds of issues for use of modern-day AI tools in education systems. Teaching students to think critically will be essential when utilizing such AI systems (Educology, n.d.; IPTAT, 2023). Students and AI systems will need to address the important question: Am I a dupe?

REFERENCES


Educology (n.d.). Criterial knowing that. [https://educology.iu.edu/criterialKnowingThat.html](https://educology.iu.edu/criterialKnowingThat.html)


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