An Educated Mind With ChatGPT

Sara Kinell

While writing this piece, drawbacks and benefits of using ChatGPT in teaching and research were hotly debated at ETH Zurich and beyond. This essay contributes to these debates by asking how large language models and their applications form together with educated minds. It argues that practices to evaluate learning need to change to better foster tolerance and diversity.

When I enter the same query into ChatGPT and a search engine, both systems use algorithms that give more weight to some factors than others in the generation of their results. This form of discrimination is inherent to algorithmic models.[3] Further, with their outputs, ChatGPT and search engines guide possible trajectories to create and learn different stories. For example, when I prompt ChatGPT and a web search engine, like DuckDuckGo, by entering the question "what is the best way to learn," their responses may influence both how I expect such questions to be answered and, in this specific case, how I envision what the best ways to learn are. ChatGPT responds to my query with a numerically ordered list of twelve "universally effective strategies" for learning. This output makes it appear as if these approaches – spaced repetition, interleaving, chunking, and nine others – are the *only* ways one might learn. The response implies that, for the LLM, it does not matter whether I aspire to learn weaving, quantum mechanics, or swimming: What is claimed to be "universally effective strategies" are displayed as a seemingly exhaustive list of how one might learn any and all things imaginable. When I prompt DuckDuckGo with the same question, the search engine outputs an advertisement, blog entries, university websites, videos, news articles, and an option for me to make visible more search results. Here, I am offered multiple points of departure from which I may explore alternative perspectives and create my own narrative of the best ways to learn. ChatGPT, in comparison, distills its results into what may seem to be a complete account, yet it obscures the diversity of forms that learning can take.

Results presented by ChatGPT reflect a limited selection of human history and are simultaneously constitutive of our future. LLMs are often trained on data from moderated, online platforms on the internet, such as Reddit or Twitter, which have historically discriminated against minorities.[4] As I am presented with answers to my questions in numerically ranked lists, ChatGPT contributes to my understanding both of what forms and

contents an answer ought to take. For example, I learn that an answer does not take the shape of a question; an attempt to clarify the initial prompt or challenge the status quo. An answer instead ought to be "universal," not locally specific or partial. It should be convincing and definite, not a response in hesitation or a modest work-in-progress. In this way, ChatGPT configures idea(l)s of what an answer ought to be like and so influences how we make knowledge in educational institutions and how we collectively shape societies with digital technologies. Even if certain narratives of how to know and live together dominate selected web-based records from the past, we might want to create different ones as we envision and enact our shared future. Narratives, as critical race theory and feminist theory has shown, may have both constraining and empowering effects on groups.[5 & 6] Here, in the creation of narratives with emancipatory potential, science and education have a particularly important role to play.[7]

Abbildung 1: Language laboratory at the Swissair Training Center in Zurich-Kloten (1969).

PLURALITIES OF KNOWING

ETH Zurich, the university institution as part of which I write this essay, defines science as a process that includes "a willingness to critically examine what has already been achieved." [8] The ability to question what we know today is crucial for science and education. To enable learning of this ability with ChatGPT, universities, together with students and staff, need to introduce new practices of teaching, assessment, and evaluation that foster a healthy skepticism against reductionist answers, that support attempts to challenge the status quo, and that embrace a diversity of knowing and living.

University students and staff alike are currently piloting ChatGPT with hopes to reach unprecedented levels of productivity and effortless creation.[9] Such aspirations tied to (the production of) science and technology are not new. Emerging technologies have a record of intriguing us with their promises of unexplored worlds.[10] At the university, members may dream of greater numbers representing the performance of students (grades) and impact of researchers (h- and i10-indices). These numbers, proxies for the abilities of an individual, are similar to the output of ChatGPT in how they slash diversity

and richness into a distilled (quantitative) measure. Numeric measurements enable management and monitoring, but also narrow our vision.[11] Efforts to quantify knowledge production and its velocity are deeply enmeshed in the same societal fabrics within which ChatGPT was spun. Instead of valuing the time it takes for an individual to recall or learn anew, OpenAI launched ChatGPT with the promise of instant answers.[12] In this context, we need to question how reductionist logics are contributing to the lack of pluralism with ChatGPT as well as wider university systems of teaching, assessment, and evaluation. Can we reflect a diversity of educated minds with simplified and reduced numerics such as grades and publication indices? What do methods of quantification do to values of openness and diversity at institutions like ETH Zurich?[13] Universities now have an opportunity to demonstrate what pluralism means in contemporary science and education. By rethinking measure(ment)s, we can nurture modes of critical thinking with ChatGPT.

QUESTIONS FOR EDUCATION

I argue that we risk losing our ability to foster tolerance, and ultimately to envision and make reality a collective future in which we embrace plurality, with ChatGPT in education. A real obstacle, I think, lies in our obsession with measurement and in our collective imaginary of ever-increasing productivity. In economic theory, Jevons paradox famously illustrates how technological progress often does not, as anticipated, increase efficiency through lowered consumption of a particular resource, but how, on the contrary, the resource increasingly gets depleted.[14] Similarly, ChatGPT may help students and staff write faster, but the result is not more time to think. Instead, university members increasingly sense a lack of time for learning and reflection.[15] At this moment, we have an opportunity at university institutions to rethink how we may better encourage a diversity of educated minds in science and education. This, I argue, necessarily involves asking whether practices of quantification in the evaluation of scientists and students can sufficiently support ambitions to make science, learn, and teach in ways that question the status quo and foster tolerance. University institutions need to enable the development of narratives that are indefinite; that broaden our perspectives and that contribute to less polarization within and between communities. By recognizing the necessary partiality inherent to all questions and answers, and by valorizing inquiries that face and embrace uncertainty, universities may enable its members to critically examine the past, the present, and a multitude of possible futures.

Autor*in
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Seminar
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Abbildungsverzeichnis
Abbildung 1: ETH Library Zurich, Image Archive / LBS_SR03-09708-02

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