



The AI-extended student mind (or: How ChatGPT calls for a gamification of education)

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ABSTRACT

In this opinion piece, I reflect on teaching Philosophy of Mind to first-year students in the age of ChatGPT. I reflect on how my students perceive the LLM as a tool for studying and even call it a useful extension of their mind, echoing Clark and Chalmers' extended mind hypothesis (1998) taught in the course. During a trial lecture for prospective university students, I was confronted with a group of students lamenting the fact that educators don't allow the use of ChatGPT, making an already hard education process needlessly harder.

However, rather than supporting students in their struggles, ChatGPT often removes the struggle altogether. That is unfortunate, as I argue that a specific type of *deliberate inefficiency* makes education meaningful. I show this by comparing education to *gameplay*. Following Suits' (2005/1978, p.55) definition of games as "the voluntary attempt to overcome unnecessary obstacles," and Nguyen's (2019) distinction between achievement and striving play, I propose that education could be usefully *gamified*. That is, not in the usual, trivial sense of replacing inherently valuable goals with clearer, quantifiable ones, but in the sense of inviting students to embrace difficulty, failure, and struggle as crucial moments of growth (see Deterding, 2014).

ChatGPT forces educators to confront the long-standing problem of students motivated by grades rather than a desire to learn. The hyper-efficient LLM can be used to bypass some of the intellectual struggles that make learning worthwhile, help develop critical skills, and reinforce long-term understanding. But with the right kind of gamification, we can motivate students in early stages of their academic career to embrace the challenge in learning. In the age of ChatGPT, it is essential to design learning experiences that invite students to see struggle not as suffering or to be avoided, but as a rewarding activity that leads to growth.

Keywords: ChatGPT, large language models, gamification, learning tools, extended mind

Introduction

I teach Philosophy of Mind to first-year Psychology students. In this course, we reflect on the relation between mind and body, the nature of thoughts and perceptions, and the evolution of consciousness. Last semester, a somewhat nervous student came to me during a break. He asked questions about a previous class, consulting his extensive notes. While answering, I inspected said notes more attentively. Most of them must have been taken during class. Others, however, seemed to have been added later: clarifications scribbled in the margin and paragraphs written in a different color. The latter caught my eye, as they all carried the subtitle 'From ChatGPT'.

I reflected on what these student's notes said about him, a first-year student trying to navigate a complicated philosophy course. And about me, too, as a professor who sometimes feels like they're competing with the Large Language Model. Were my answers as clear as ChatGPT's? Hopefully. Was I as

approachable as the AI is? Unlikely. I remember how intimidating I found it to approach professors during my first year at university.

Many students find in ChatGPT a patient tutor, a continuously available study support, and a deceptively confident guide through unknown territory. Due to its hyper-availability and responsiveness, some students go as far as calling this tool an extension of their own mind. This came to light while I was teaching a trial lecture to high school students considering to enroll in Philosophy. During this lecture, we discussed Clark and Chalmers' *extended mind hypothesis* (1998). Cognitive processes, these authors claim, are not confined to the head. In fact, external tools (like notebooks and computers) can perform many of the functions our brains can and often more efficiently so, essentially extending our mind.

Clark and Chalmers claim that we know information stored in our external tools as much as we know information stored in our own brain. Whether you successfully calculate a sum in your head or using a calculator is irrelevant: both are instances of a successful, cognitive process. Indeed, someone who always has a calculator available to them is, according to this theory, just as good at math as an expert in mental arithmetic. During the lecture, I recounted how my fourth-grade teacher would often say: "You have to learn to do calculations yourself, because you won't always have your calculator with you!" Taking my smartphone out of my pocket, I said my teacher had apparently been wrong about that.

Yet, I explained to my students how my teacher's worries are supported by none other than Socrates. In Plato's *Phaedrus*, Socrates criticizes people's trust in texts rather than their memory. He tells the story of the God Theuth, who proudly presents his invention of writing to King Thamus. The latter, less thrilled by this invention, tells Theuth that his discovery "will introduce forgetfulness into the soul of those who learn it: they will not practice using their memory because they will put their trust in writing" (370BCE/1995, 275A). Socrates concludes that through texts, these people might indeed gain *access* to information, but they will not truly learn it, nor develop the skills to memorize, understand, and critically use that information.

Although laughing at Socrates' worries, students seemed to agree to some extent. One thought that our memories would indeed be better if we hadn't invented writing. Another one claimed they had become less skilled at navigating since they gained access to Google Maps. I then mentioned ChatGPT and asked them whether they agreed with Chalmers' optimism or Socrates' pessimism: does ChatGPT augment our cognitive skills, or does it diminish them? I saw some uncertain faces, so I added: "Imagine you would just type my question into ChatGPT right now and read me back the reply it gives you. That would make this class useless, right? To learn, you need to think for yourself. Isn't that precisely why you are thinking of studying Philosophy? To practice critical thinking?"

Illustrating their skill of critical, autonomous thinking, one of the students replied: "But will this class not be useless in a few years, when ChatGPT is perfected and can do all of this critical thinking for us, whenever we need it?" Speechless (and somewhat deflated), I found myself wondering how I came across to these students. Was I, to them, just like my fourth-grade teacher, who, despite her criticism of the calculator, now also always carries one in her pocket? Or like Socrates, whose harsh condemnation of writing is only known to us because... Plato wrote it down?

While I was ruminating on this, the group rallied behind Chalmers, who writes: "Writing enhances our knowledge and our memory; it doesn't diminish them. Likewise, Google makes us smarter, not stupider. Augmented with these tools, we can know more and we can do more than we could before" (Chalmers, 2022). ChatGPT is a useful extension of our mind, the students concluded, and it will only get better. Just

like it's ridiculous to ban students from taking notes or using calculators, it's better to allow students to make use of ChatGPT. Why should they learn to do things ChatGPT can do for them? Why make education harder than it needs to be?

Why indeed? Sitting in front of me were 20 students who would probably start their first year at university soon. Such a first year is not easy. As educators, we need to take away the obstacles that stand in the way of students' successful learning processes. But with the availability of ChatGPT, students often feel like unnecessary obstacles are being *placed* on their path by educators. Why should they painstakingly learn how to interpret advanced texts, if LLM's can explain them? Why do we teach them to write papers, if (according to these students), with a simple prompt, ChatGPT produces a well-written argument? All of this seems awfully *inefficient* in light of what an "AI-extended" student mind can do.

But that's just it. Meaningful education simply needs to be characterized by a certain inefficiency. I'm reminded here of Suits' definition of a game as "the voluntary attempt to overcome unnecessary obstacles" (Suits, 2005/1978, p.55). For example: when running a marathon, the goal is to cross the finish line. But one cannot just take a taxi to get there. The inefficiency is the point. The activity is only meaningful if the goal is reached *in light of* the inefficiency, the limitations, the unnecessary obstacles.

I'm suggesting that education is similar: in a world where students can access ChatGPT, meaningful education is like a game. Inefficient means to reach certain goals (writing a paper, getting a grade) must be voluntarily embraced to make meaningful learning processes possible. One cannot just use ChatGPT to get there.

First-year students need challenges, even if they perceive these as unnecessary. They need to learn, early on, to be the right kind of player. They need to understand education as a game worth playing for its own sake. More important than ever before is to gamify education. Not in the sense of putting the emphasis on quantified goals students need to strive towards (good grades and, eventually, a degree), as this educational decision invites cheating (using more efficient means to bypass struggles instead of tackling them). Rather, the focus needs to be on the process (including its unnecessary inefficiency) that leads to achieving those goals. Especially, first-year students need to be made aware of how to approach studying. We need to help them be, in Nguyen's words, not just achievement players, interested in achieving goals, but also striving players, who find value in the very struggle towards that goal (2019, p.428).

ChatGPT merely exacerbates a long-standing problem: some students study only to obtain a degree, rather than out of a desire to learn. Such students find in ChatGPT the most efficient means to bypass a struggle that should be valued in itself. Approached like this, ChatGPT can be seen as a push towards a long overdue gamification of education. Again, I'm not talking about the type of gamification that consists in replacing inherently valuable goals like knowledge and skill acquisition with easily quantifiable ones like scores and degrees. Rather, I'm talking about the type that re-introduces playfulness, allows experimentation and failure, and invites the acceptance of inefficient means and unnecessary obstacles to enable a rewarding process of striving (see Deterding 2014, p.314).

Recall, in this regard, the student who came to me during the break, his notes in hand. On further inspection, many of his AI-inspired paragraphs went further than the pre-set course content. The questions he asked were characterized by curiosity, a critical attitude, and a desire to understand better. He's the kind of player we need: accepting and tackling obstacles in the road to his degree, embracing the learning process as the somewhat inefficient struggle that it is (and should be).

Educators should support students' efforts while showing them the value of struggle, rather than allowing them to reach educational goals effortlessly by having AI struggle for them. In a way, ChatGPT makes education's purpose clearer than ever. The challenge for educators is not to compete with AI, which takes the struggle—and with that, the suffering—out of learning. Instead, we should design learning experiences where inefficiency is essential, failing is allowed, and struggling is not suffering, but a rewarding activity that leads to growth.

Biography

Nele Van de Mosselaer is Assistant Professor in Philosophy at Tilburg University. She teaches Philosophy of Mind and Philosophy of Art, Media and Society. Her research focuses on digital games and VR. She is interested in the use of digital technologies for teaching and co-designed a videogame that stimulates critical thinking (playable at www.doors.gua-le-ni.com).

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