Bill Gates Is an Autodidact. You're Probably Not.

Just because self-teaching worked for him doesn't mean it would work for most kids.

Photo by Suzanne Plunkett/Reuters

When Bill Gates was still a teenager, he would sneak out of his family's house before dawn and ride his bike to a building on the campus of the University of Washington. He had discovered that the university's huge supercomputers were idle between the hours of 3 and 6 in the morning, allowing the budding computer enthusiast to teach himself how to program—night after night, until the sun came up.

At a young age, Gates was already an autodidact, someone compelled to learn for himself what he needed to know. Over the course of his life, Gates has maintained this habit: He dropped out of college after two years, but he has continued his

education through incessant reading and conversing. Michael Specter, a *New Yorker* writer who profiled Gates for the magazine, has said that the Microsoft founder "is one of these autodidacts who reads, reads, reads. He reads hundreds of books about immunology and biochemistry and biology, and asks a lot of questions, and because he's Bill Gates [he] can get to talk to whoever he wants."

Gates is particularly interested in these topics because of his philanthropic work combating disease in developing countries. Another arm of his philanthropy, of course, involves the promotion of technology in education. Many of Gates' fellow leaders in the ed tech world are also members of the autodidact club. Computer scientists, engineers, entrepreneurs, academics—they are a self-selected group of individuals who have schooled themselves in a fast-changing field for which there is no settled syllabus, no well-established curriculum. In turn, their preferences and proclivities have shaped the educational technologies that the rest of us use, as well as the expectations we hold about what ed tech can and should do.

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This is no surprise: We all rely on our own experiences in forming our ideas of how learning works. But the experiences of ed tech creators and promoters are notably influential—and notably unusual. Most people are not autodidacts. In order to learn effectively, they need guidance provided by teachers. They need support provided by peers. And they need structure provided by institutions. Amid all the effusions about how ed tech will "change the way we learn," however, these needs rarely merit a mention. Instead we hear about the individual and his app, the person and her platform, as if teachers, classmates and schools were unnecessary and unwelcome encumbrances.

This is a very particular take on learning: the autodidact's take. We shouldn't mistake it for most people's reality. Productive learning without guidance and support from others is rare. A pair of eminent researchers has gone so far as to call

the very notion of self-directed learning "an urban legend in education."

In a paper published in *Educational Psychologist* last year, Jeroen J.G. van Merriënboer of Maastricht University and Paul A. Kirschner of the Open University of the Netherlands challenge the popular assumption "that it is the learner who knows best and that she or he should be the controlling force in her or his learning."

There are three problems with this premise, van Merriënboer and Kirschner write. The first is that novices, by definition, don't yet know much about the subject they're learning, and so are ill-equipped to make effective choices about what and how to learn next. The second problem is that learners "often choose what they prefer, but what they prefer is not always what is best for them"—that is, they practice tasks that they enjoy or are already proficient at, instead of tackling the more difficult tasks that would actually enhance their expertise. And third, although learners like having some options, unlimited choices quickly become frustrating—as well as mentally taxing, constraining the very learning such freedom was supposed to liberate.

And yet, to paraphrase the economist Larry Summers: There are autodidacts. Look around. We all know at least one successfully self-taught expert, and the tech world is teeming with them. How'd they get that way?

Here the psychological literature is largely silent. There are assessment tools, such as the Self-Directed Learning Readiness Scale, which asks those who complete it to agree or disagree with statements like "I know what I want to learn," "If there is something I want to learn, I can figure out a way to learn it," and "No one but me is truly responsible for what I learn."

These instruments are officially agnostic about where the "readiness" to engage in self-directed learning comes from, but they're often employed as if such readiness is an inborn characteristic of the individual, even a personality trait.

Is self-directedness, in fact, innate? Though it doesn't speak directly of autodidacts, the psychology of motivation and interest suggests that self-directed learners are not only born, but can be made. The research suggests it's likely that the autodidacts among us did make the wrong turns and poor choices van Merriënboer and Kirschner warn about—made them, but then kept going until they got it right. It's likely that their keen interest in their subjects carried them past the failures and frustrations that would have deterred less ardent learners.

And it's likely that they had more help along the way than is generally acknowledged. When Bill Gates was a senior in high school, he wangled an independent study project writing code for the computer system of a local power station. There he was supervised by a man named John Norton, "who Gates says taught him as much about programming as almost anyone he'd ever met," according to Malcolm Gladwell's *Outliers*.

Gladwell's title is apt: Bill Gates is most certainly an outlier in his relentlessly self-directed acquisition of knowledge. But there's no reason the rest of us can't cultivate the autodidact's virtues of persistence and passion. By the same token, the autodidacts who create and promote the educational technology used by the rest of us could keep in mind that the support of people and institutions is always integral to learning.

For most, that will mean the physical presence of teachers, of peers, of classrooms and schools. No human being learns in isolation; education is an inherently social enterprise. Even the autodidact is surrounded by social influences, guided by the voices of parents and past teachers, as he roams library stacks and Internet sites alone.

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