The Education System That Pulled China Up May Now Be Holding It Back

By Helen Gao

China wants inventors and entrepreneurs, but its schools, built around the notorious gaokao exam, are still designed to produce cookie-cutter engineers and accountants.

A student, studying for the gaokao, naps on a desk during his lunch break in a classroom in Hefei. (Reuters)

On the morning of June 7 every year, Beijing’s normally chaotic streets fall silent. Police patrol the main roads on motorcycles, as construction workers put down their hammers and power down their cranes, and rowdy taxi drivers finally take their hands off the horn. It is the first day of gaokao, the annual, nationwide college entrance exam, which will decide the college matriculation of the nine million or so students who take it. Sitting for nine hours over two days, students are tested on everything from Chinese and math to geography and government. The intense, memorization-heavy, and notoriously difficult gaokao can make the SAT look like a game of Scrabble. How they do on the test will play a big role in determining not just where they go to college but, because Chinese colleges often feed directly into certain industries and fields, what they do for the rest of their life. It’s an enormously important moment in any Chinese student’s life, which is part of why high schools here dedicate months or even years to preparing for the test.
In many ways, the *gaokao* is symbolic of China's rise, with millions of Chinese striving and competing to pull up themselves and their nation. But it's also symptomatic of how far China still has to go, as the country tries to shift its economy from exports to domestic consumption, from assembling products to designing them. China's *gaokao*-style education system has been great at imparting math and engineering, as well as the rigorous work ethic that has been so integral to China's rise so far. But if the country wants to keep growing, its state economists know they need to encourage entrepreneurship and creativity, neither of which is tested for on this life-determining exam.

In 2010, an international *standardized test* found that junior high school students in Shanghai had outperformed their peers in rest of the world in math, science, and reading, beating the U.S. averages by a wide margin. Many in the West saw it as an alarming indication of their own decline, but in many ways it was a sign of the amazing growth of Chinese education over past three decades, rebuilt from shambles after the decade-long Cultural Revolution ended in 1976. So far, it has served China phenomenally: its nine-year compulsory education system, installed in 1986, has boosted the country's literacy rate to around 92 percent (it was 67 percent as of 1980) and prepared millions of eligible young people for the rapidly expanding workforce. Now, however, as the economy *shows signs of cooling*, Chinese leaders are *trying to engender* more domestic innovation.

They hope to see an educated workforce, rather than toiling on factory floors or sitting in the cubicles of Western companies' Chinese branches, found their own businesses or brands that will sell to domestic as well as international buyers. They want domestic moviegoers to stop purchasing bootleg DVDs of Western blockbusters, and for foreign viewers to start raving about Chinese films. But the nation's education system, instead of channeling the youthful energy of China's next generation, seems to be blocking it.

When I first came to the U.S. to start school here, after having just finished my junior year at a high school in my native Beijing, I quickly learned that the challenge I faced was more than just a language barrier. The analytical essays on my history tests felt dauntingly, even impossibly amorphous compared to the straightforward multiple-choice questions that had long characterized my exams. (The nature of China's *New Democratic Revolution*? Anti-imperialism, anti-feudalism, and anti-bureaucratic capitalism, in that order. The Nationalist Army's stance during the anti-Japanese war? Passively counteracting Japan and actively combating the Communist Party, as neatly summarized by the textbook.) I was used to strictly formatted Chinese argumentative essay topics, for which I had memorized hundreds of paragraphs that I could organize like jigsaw puzzles. Western-education-style papers on, for example, the significance of symbols in a novel was not the sort of expressive, creative thinking for which my Chinese teachers had prepared me.

Education experts in China have debated the perks and flaws of the country's rote teaching style for years, but most students, comfortably immersed in a system that rewards and reinforces their ability to memorize and emulate instead of to analyze and question, might not as easily realize its limits from the inside. But some have rebelled, such as the well-known Han Han, China's most popular blogger. He sparked a small national controversy when, announcing that the Chinese education system left too little room for his more disruptive style of thinking, he dropped out of high school. In one essay, he mocked Chinese education, comparing it to "standing in the shower wearing a padded coat." In other words, he sees it as an exercise absurdly ill-suited to achieving its goals. "The problem with our education is that no one will go take a shower naked," he wrote, "but too many are taking the shower.
with a padded coat."

Students with ideas that deviate from the official orthodoxy often seem to struggle in China’s education system, as do students whose pursuits differ from the system’s rigidly defined standards for talent and success. Most students are required to take the same classes regardless of their talents or interests. Their achievement is measured solely by their scores in gaokao, and hobbies not convertible into gaokao points are deemed distractions. Why play soccer or take part in the student council, after all, if it leaves less time for cracking chemistry problems? You live and die by your numbers, starting with your gaokao score, a value system that is reinforced by employers and families alike. Many people in China know and even venerate the stories of Bill Gates and Steve Jobs dropping out of college to start their own businesses. But when I told Chinese friends that a college classmate was taking a gap year to do mountaineering, they responded with baffled looks.

Whatever your formula for innovation -- diversity of thought, collaboration, risk-taking -- you're not likely to find it in abundance in Chinese schools, where high-stake tests pit students against one other in a zero-sum competition that can feel a little more Hunger Games than think tank. "[When] you feel that the guy sitting beside you is your potential enemy who may rob you of a lifetime of happiness, altruism is not going to be your guide," gaokao veteran Eric Mu wrote in an essay on Danwei titled, "Confessions of a Chinese Graduate." If you find a question you can't answer you certainly don't ask a classmate for help, Mu explained, because "[to] offer your knowledge or even your questions for free is not only time consuming but an aid to your enemies." Students whose unsatisfactory test scores lower their class's average often become social outcasts, as do the students who make everyone else toss in their sleep by working just a little too hard. Teachers and headmasters, whose reputations and salaries are tied to their students' exam scores, have more of an interest in maintaining a good average than in, say, dedicating extra time to a struggling student.

China needs a generation of entrepreneurs to develop a more innovative economy, its national leaders know, but a recent report found that only 1.6 percent of Chinese college graduates started businesses last year, the same as the year before. Opening up local e-commerce stores or restaurants is great, but it's nothing yet on the scale of a Chinese Apple or a Chinese Facebook. The nation's high-profile entrepreneurs, such as Pan Shiyi and Zhang Lan, are worshipped by young, middle class Chinese. But these business megastars are largely perceived as distant celebrities, rather than as role models who should -- and can -- be emulated.

Chinese elementary school textbooks tell the stories of the "Four Great Chinese Inventions": the compass, gunpowder, papermaking, and printing. First coined by Francis Bacon out of admiration for how powerfully these inventions had reshaped the world, the term is promoted by the today's leaders as evidence of the creative wisdom that runs through China. Chinese educators, eager to surface more young innovators like Cai Lun, who made the world's first sheet of paper, have decided to immortalize the great inventor in their own way, by embedding his name into a three-point multiple-choice question of the gaokao history exam.

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