American high school students perennially rank behind their Asian counterparts in standardized math and science tests, but in a surprising twist, some countries that rank above the United States want to learn from the best American high schools.

While Chinese and South Korean schools, in particular, are excellent at preparing students to excel in test taking, experts say they are realizing the limitations of their systems and the
need to incorporate creativity and critical thought into their high school curricula.

“Schools around China, especially in developed areas like Shanghai and Beijing, are exploring education reforms with help from government,” said Xing Xu, a writer for *Shanghai Education*, a bi-weekly publication of the Shanghai Education Commission. “Some of them have got some good results: less homework, less memorizing, more discussion and practice.”

Xu added that top U.S. high schools place great emphasis on student initiative and practical experience, things “Chinese students lack.”

Li Jing, the deputy principal and director of international programs at the high school affiliated to Renmin University of China in Beijing, said China launched an educational curriculum reform in 2010 “aiming to promote a more student-centered learning setting, as well as to encourage students' creativity and critical thinking.”

One of the goals of that 10-year plan is to “learn advanced education ideas and experience from other countries in the world.”

South Korea, where students consistently rank near the best in the world in math and science, is also interested learning about top American schools.

“The proportion of creativity and emotional and character education is lacking [in Korea] compared to academics,” said Kwak Bong-jong, who until recently, was an education officer at the Korean Embassy in Washington, DC.

Adam Wojciechowicz, a spokesman for the embassy, said in an e-mail that Korea is not searching for a direct model upon which to base its own schools, which meet fairly high standards as it is. But because of the strong interest in all levels of education in Korean society, he said, they are trying to keep informed about new trends, ideas, curriculums and models of teaching in the U.S., especially at top schools. "They are continually striving to improve,” he said.

Ilryong Moon, a member of the Fairfax County School Board, located in the Virginia suburbs of Washington, DC, said that while South Korean schools have been very successful, they need to foster more creativity and analytical thinking “if they want to go another notch higher.”
Moon, a Korean-American who came to the U.S. in the 1970s, said the current system in South Korea is so deeply entrenched that no one knows how to change it.

“When they talk about education reform in South Korea, even if a high percentage of parents think they need to find a better system, no one will want to have their kids be the guinea pigs,” he said.

South Korean and Chinese officials seeking potential inspiration from top schools in the U.S., often call on Thomas Jefferson High School of Science and Technology, located in Fairfax County.

There is “extreme interest” from Asian educators, press and government officials, particularly Chinese and Korean, in American top schools, said Evan Glazer, the principal of Thomas Jefferson High School, which is considered one of the best in the U.S. The school is so highly regarded for its innovative approach that on Sept. 16, President Barack Obama traveled there to sign the America Invents Act, the first update to patent law since 1952.

“We get an extraordinary amount of visits from schools and officials from Asian countries,” Glazer said. “This summer, I hosted 75 principals from China. We’re usually one of the stops. They’re usually doing a national tour. I think they want to make the best American schools the baseline.”

Other schools visited included the Illinois Math and Science Academy, Andover and Exeter.

Interviewed in a recent article in Shanghai Education, Glazer was asked how Thomas Jefferson fosters critical thinking, creativity, getting out of the classroom environment, student-teacher collaboration, and how to combine science and math with liberal arts.

During a recent visit to Thomas Jefferson, it was easy to see why there is so much interest in it.

It’s a so-called magnet school, meaning a school with a specialized curriculum that attracts students from a larger geographic area than a regular public school, which draws from a defined area. It was established in 1985, as a result of a partnership of businesses and schools with the goal of improving education in science, mathematics and technology.
While the curriculum focuses on math and science, there’s a heavy dose of liberal arts, electives and foreign language study. There’s a stress on creativity as well as analytical and critical thought.

Students conduct university-level research in specialized laboratories in fields such as microelectronics, neuroscience and biotechnology. These labs give students opportunities for independent research and experimentation, as well as a chance for interaction with professionals from various fields through a mentorship program.

This kind of self-directed, hands-on, creative, collaborative curriculum is rare in China and South Korea, where the main focus of high school is to prepare for college entrance exams, often through intense rote memorization and a standardized curriculum.

A standardized curriculum implies almost all schools offer the same curriculum in order to reach the same standards.

“That means there has not been a lot of flexibility to try alternative curriculum approaches,” said Glazer in an email. “In recent years, however, China has been developing ‘experimental schools,’ an effort to offer unique curriculum without accomplishing the same national standards as other schools. In essence, they are starting to give schools more freedom in the learning opportunities to students.”

Glazer added that while the U.S. has explored various kinds of specialized schools, “lately the U.S. education system is pushing for more national standardization - similarities in curricula across states.”

Interestingly, according to Glazer, the trends in the U.S. are heading more in that direction.

Glazer said he “sees the pendulum in China swinging away from standardized curriculum," while it's "swinging the other way in the U.S."

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