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Finland Rethinks Factory-Style School Buildings

By Sarah D. Sparks

Washington

Education watchers have dissected Finland's educational leadership on international tests from practically every angle, but a new traveling exhibit at that nation's embassy here suggests one more: that the buildings themselves support student achievement.

Finnish students consistently have placed among the top countries on the Program for International Student Assessment, which gauges 15-year-old students' ability to understand and transfer concepts in reading, mathematics, and science. For example, in the **most recent mathematics assessment**, in 2009, Finnish students scored 54 points higher than their American peers on a scale of zero to 1,000. Pasi Sahlberg, the director general of the Center for International Mobility and Cooperation at Finland's education ministry, attributes the nation's academic achievement to a three-fold approach: quality of the academic curriculum, equity in educational access, "and the third one is the environment. How the environment and design of the school is supporting students' learning. When we combine these three things we can say something about the overall goodness of the school system."

School design has become of increasing concern to American and international educators alike, as buildings age and research emerges on the effects of schools' physical structure on student health, safety, and motivation.

"By understanding what motivates the students and helps them learn, it helps us as architects design a space that can support student achievement," said Paul C. Bunton, the president of BCA Architecture in San Jose, Calif, who was not part of the exhibit.

'Finnished' Spaces

The **embassy exhibit**, developed by the Museum of Finnish Architecture in Helsinki, describes seven Finnish schools opened from 2001 to 2007: Strömberg School, Sakarinmäki School and Day Nursery, Viikki Teacher Training School, and Hiidenkivi Comprehensive School, all in Helsinki; Comprehensive School, in Joensuu; and Kirkkojärvi School and Enter Upper Secondary School and Vocational College, both in Espoo. They exemplify the country's move from factory-style schools, with all classrooms and desks in rows, to contemporary campuses built to meet the

pedagogical and social needs of their students and teachers. The national Board of Education set guidelines for a proper learning environment, including recommendations on aesthetic quality, with the sense that a school "should be a place that is physically, psychologically, and socially safe, promoting the child's growth, health, and learning as well as their positive interaction with teachers and fellow pupils."

Several of the schools in the exhibit came from a series of 15 national school design competitions held between 2000 and 2010.

"Every single detail has a meaning, has a purpose," Mr. Sahlberg **said at the June 14 exhibit opening**, "because all of these designs have been done in collaboration with the teachers, the principal and the architects."

That collaboration shows in the spacious teachers' lounges and work spaces in the schools. For example, the Kirkkojärvi School teachers' lounge has a built-in coffee bar and cafe tables, where the principal serves coffee and tea during breaks; the room is intended to give teachers a place to regularly meet casually with the principal and other teachers, beyond formal working groups. And the Sakarinmäki School, scheduled to open in 2014, has a separate wing for teachers' offices and work space, which gives adults quiet for preparing lessons and conducting professional development work but connects to the nursery school and upper grades by a central atrium.

The buildings are laid out in clusters, with multiple gathering places inside and out. In part, this is necessity: While American schools are cutting recess, Finish schools set aside a 15-minute break after every 45-minute lesson, coupled with a half-hour lunch break, even though they traditionally have shorter school days overall than those in the United States.

"If you come to these schools in January, when the temperature can be much below zero, you can still see all the children outside playing," Mr. Sahlberg said, "So it means the school has to be designed in a way that there are things for children to do and the environment is safe."

Priority for Space, Light

In the current issue of the research journal *Children, Youth, and Environments*, published in the spring, Ellyn M. Dickmann, associate dean of education and professional studies at the University of Wisconsin, Whitewater, **found** building design could exacerbate bullying problems. Schools that included few windows, isolated classrooms, and little public-gathering space were harder for adults to supervise, leading to more bullying.

Several of the Finnish schools include indoor atriums overlooked by upper-story classes as well as outdoor courtyards sheltered to the wind but with easy sight lines for adults supervising students. And most of the schools include floor-to-ceiling windows intended to fill classrooms with natural light; Strömberg School, for example, uses skylights and large windows in the walls between classrooms, to allow more light to reach interior spaces.

The Kirkkojärvi School in Espoo, the second-largest city in Finland, even orients its play yard facing east, so that students with morning recess get more sun exposure and Vitamin D.

A 2008 study, part of ongoing research by C. Kenneth Tanner, the director of the School Design and Planning Laboratory at the University of Georgia in Athens, offers some scientific validation for that idea. The study found in an analysis of 71 schools that students exposed to more natural light had higher vocabulary and science scores on the Iowa Test of Basic Skills, and students in classrooms with views of the outdoors had higher mathematics, vocabulary, and language arts scores on the same test.

"Apparently the Zen view is important for classrooms where the student needs to see outside but not necessarily have a commanding view," Mr. Tanner concluded, referring to the Buddhist philosophy of meditation. He noted that it was most effective for students to be able to "rest their eyes by allowing a minimum view of at least 50 feet."

Mr. Bunton agreed that expanding the amount of openness and light in a school can boost student safety and motivation. He noted that **one recent new campus**, Christopher High School in Gilroy, Calif., south of San Jose, opened in stages over the course of three years; in each year the students moving to the new campus from the old 1920s-era Gilroy High School experienced a 7 percent increase in test scores. "It's the same students, same teachers, but a different environment," he said.

The exhibit, "The Best School in the World" runs through July 22 in Washington.

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