COMMENTARY

The Classroom Is Obsolete: It's Time for Something New

By Prakash Nair

The overwhelming majority of the nearly 76 million students in America's schools and colleges spend most of the academic day in classrooms. That's a problem because the classroom has been obsolete for several decades. That's not just my opinion. It's established science.

The debate over education reform has been going on for longer than anyone can remember. Relegated previously to arguments between policy wonks, questions about how we should reform our nation's schools have now entered the public consciousness in a very real way. The global financial crisis and our economic woes have collided with increased mainstream coverage of our failing educational system. The Obama administration has joined the chorus of critics and rolled out numerous reform measures.

Lost in all this hand-wringing is the most visible symbol of a failed system: the classroom. Almost without exception, the reform efforts under way will preserve the classroom as our children's primary place of learning deep into the 21st century. This is profoundly disturbing because staying with classroom-based schools could permanently sink our chances of rebuilding our economy and restoring our shrinking middle class to its glory days.

The classroom is a relic, left over from the Industrial Revolution, which required a large workforce with very basic skills. Classroom-based education lags far behind when measured against its ability to deliver the creative and agile workforce that the 21st century demands. This is already evidenced by our nation's shortage of high-tech and other skilled workers—a trend that is projected to grow in coming years.

As the primary place for student learning, the classroom does not withstand the scrutiny of scientific research. Each student "constructs" knowledge based on his or her own past experiences. Because of this, the research demands a personalized education model to maximize individual student achievement. Classrooms, on the other hand, are based on the erroneous assumption that efficient delivery of content is the same as effective learning.

Environmental scientists have published dozens of studies that show a close correlation between human productivity and space design. This research clearly demonstrates that students and teachers do better when they have variety, flexibility, and comfort in their environment—the very qualities that classrooms lack.

At this point in the lecture, someone always raises his or her hand and declares: "But the open classroom experiment of the '70s was a dismal failure!" Let me reassure you that I'm not talking about simply substituting open areas for classrooms. I'm talking about a way to design schools that closely follows instructional needs. This new model does not dispense with direct or large-group instruction. Instead, it provides opportunities for traditional teaching to seamlessly connect with many other modes of learning. Simply put, it is form following function, not function (unsuccessfully) following form.

Let's look at how the development of a new or renovated school project might evolve if we did it right. We would open discussions with our education stakeholders, who include students, teachers, parents, administrators, community residents, business leaders, higher education partners, and elected officials. From these discussions, we would develop a set of key principles for design.

The following is a fairly universal list of education design principles for tomorrow's schools, though it would be tailored to the needs of particular communities: (1) personalized; (2) safe and secure; (3) inquiry-based; (4) student-directed; (5) collaborative; (6) interdisciplinary; (7) rigorous and hands-on; (8) embodying a culture of excellence and high expectations; (9) environmentally conscious; (10) offering strong connections to the local community and business; (11) globally networked; and (12) setting the stage for lifelong learning.
In designing a school for tomorrow, such underlying principles should drive the discussion. They would allow us to address questions around how students should learn, where they should learn, and with whom should they learn. We may discover that we need teachers to work in teams, that parents and community volunteers are available to help, that businesses will offer off-site training, that community organizations will permit the use of their recreational, cultural, and sporting facilities. We may conclude that it makes no sense to break down the school day into fixed "periods," and that state standards can be better met via interdisciplinary and real-world projects.

Yes, we will need enclosed spaces for direct instruction, but perhaps these could be adjacent to a visible and supervisable common space for teamwork, independent study, and Internet-based research. Arts, science and technology, and performance could be integrated in ways that would

be impossible in a traditional, classroom-dominated school layout. Before we know it, we would have created a true 21st-century school.

But the process described above is not how we design our schools today, because we still think that yesterday's classroom equals tomorrow's school. Perhaps some would define "success" as students' ability to perform well on a standardized test, rather than their developing skills to navigate a fast-changing world. Under that limited definition, classrooms tend to do fairly well, but classroom-based schools would do poorly in comparison with educationally driven designs for true 21st-century learning. Does this mean that effective education is impossible in schools with classrooms? Of course not. Good teachers work hard to overcome the limitations of classroom-based schools, and many succeed in spite of the odds.

So where does this leave us? What happens to the hundreds of billions of dollars of capital investment locked up in what can best be described as "dysfunctional" educational infrastructure? This is where the good news comes in. There is evidence that even the most rigidly "old paradigm" school facilities can be converted with modest investments of funds into effective places for teaching and learning.

These initiatives would not necessarily get rid of classrooms, but instead redesign and refurbish them to operate as "learning studios" and "learning suites" alongside common areas reclaimed from hallways that vastly expand available space and allow better teaching and learning. In many parts of the country, limited classroom space can be significantly expanded by utilizing adjacent open areas while simultaneously improving daylight, access to fresh air, and connections to nature.

Those who are intrigued or skeptical about the notion of education beyond classrooms may want to start their own research with some of the thought leaders in this arena. The School of Environmental Science in Apple Valley, Minn.; the Minnesota New Country School in Henderson, Minn.; the High School for Recording Arts in St. Paul, Minn.; Forest Park Elementary School in Middletown, R.I.; Duke School in Durham, N.C.; Learning Gate Community School in Lutz, Fla.; Hellerup School in Copenhagen, Denmark; Wooranna Park Primary School in Victoria, Australia; Australian Science and Mathematics School in Adelaide, Australia; and Discovery 1 School in Christchurch, New Zealand, are just a few great non-classroom-based examples of schools. (In the interests of full disclosure, I need to note that my firm—and I personally—worked on several of these school-design projects.)

Let's hope that scientific evidence, along with the economic imperative for change, will set us on a new path—one in which we break down the metaphorical and real walls that keep our

children trapped in boxes. To get there, we first need to free ourselves from the mental box that limits our thinking about the real meaning and purpose of education.

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