

A NEW STUDY SHOWS HOW COLOR, LIGHTING, AND OTHER CLASSROOM DESIGN CHOICES CAN HAVE A HUGE IMPACT ON STUDENT PROGRESS.

As debate over education reform sizzles, and as teachers valiantly continue trying to do more with less, a new study suggests that it might be worth diverting at least a little attention from what's going on in classrooms to how those spaces are being designed. The paper, published in the journal *Building and the Environment*, found that classroom design could be attributed to a 25% impact, positive or negative, on a student's progress over the course of an academic year. The difference between the best- and worst-designed classrooms covered in the study? A full year's worth of academic progress.

The study was conducted over the 2011–12 academic year, with 751 students in 34 classrooms, spread across seven primary schools in the seaside town of Blackpool, England. After collecting data on the students' performance levels going into the school year, the researchers, comprising faculty from the University of Salford School of the Built Environment, in Manchester, England, as well as collaborators from the architecture firm Nightingale Associates, ranked each classroom on a 1 to 5 scale for 10 different design parameters: light, sound, temperature, air quality, choice, flexibility, connection, complexity, color, and texture. Each of these parameters were broken down into a few considerations. Light, for example, included the amount of natural light entering the classroom, as well as the teacher's ability to manually control the level of lighting; flexibility took into consideration how well a given classroom could accommodate pupils without crowding them, in addition to how easily its furniture could be rearranged for a variety of activities and teaching approaches.

There is, of course, the matter of the teacher, though the paper points out that the multilevel statistical model used to crunch the data, which looks at the correlation between the variables and student progress across classrooms, actually buffers against their influence to a large extent.

So what did they find? Six of the design parameters—color, choice, complexity, flexibility, connection, and light—had a significant effect on learning. Light, as mentioned above, concerns the amount of natural light in the classroom and the quality of the electrical lights it contains. Choice has to do with the quality of the furniture in the classroom, as well as providing "interesting" and ergonomic tables and chairs for pupils. Complexity and color both have to do with providing an ample amount of visual stimulation for students in the classroom.

Professor Peter Barrett, the paper's lead author, explained the significance in a statement accompanying its publication: "It has long been known that various aspects of the built environment impact on people in buildings, but this is the first time a holistic assessment has been made that successfully links the overall impact directly to learning rates in schools. The impact identified is in fact greater than we imagined and the Salford team is looking forward to building on these clear results." With the success of the pilot phase, the researchers have found funds to continue the study, and over the next 18 months they'll track student progress in 20 additional classrooms around the U.K.