

Center for Innovative School Facilities of Oregon



Quality Facilities Impact Achievement

Oregon has 7,875 school buildings, totaling 94 million square feet

Our schools produce over 400 million pounds of CO₂ (e.g. 8 millions barbeques) per year

83% of the buildings were built before 2000

38% have no automatic fire alarms or sprinklers

"The ugliness of a building in disrepair conveys a very clear message to a child that we don't value that child very highly..."¹

School facilities have the ability to play a powerful role in a student's academic success. Quality learning environments are not only healthier, but also help children feel more safe, secure, and valued. As a result, self esteem increases and students are more motivated to engage in the learning process. Research indicates that the condition and design of school facilities measurably impact test scores, attendance, and graduation rates.

-Sheryl J. Reinisch, Ed.D

Professor, College of Education, Concordia University

The Research:

- In a study investigating student achievement and building conditions, results indicate that the higher a school rated on building conditions, the higher its students performed on achievement tests. There was an **average difference of 10.9% in test scores** between school facilities labeled "excellent" and those deemed "poor."²
- Academic performance positively relates to building conditions in all subtests when facility conditions were compared with student test scores. High School students' test scores ranked as much as **5 percent higher in high schools** with higher quality ratings. When comparing categories, achievement levels were highest in the cosmetic category which included items such as classroom paint, classroom furniture, and landscaping.³
- Data suggest that learning for 3rd and 5th grade students is influenced by facility design. Design patterns account for **14.2%** of the variance among **3rd grade** children and a **9.7%** variance among **5th grade** children, indicating that architectural design, daylight and views, and color scheme are related to children's learning.⁴
- Students in middle school performed better in newer or recently renovated buildings than in older buildings. The percentage of students passing English, mathematics, and science exams was higher in standard buildings than students in substandard buildings. One of the largest differences in **percentage of students passing is in English, at 6.10 percentage points.**⁵

- Findings indicate a positive relationship between schools where conditions were rated “excellent” and student test scores in science, math, and English language arts. Schools in **excellent condition** also had a positive correlation to the **graduation rate of students**. In comparison, a negative correlation was found between schools over 49 years old and graduation rates.⁶
- Students are less likely to attend school and more likely to drop out of school when school facilities have inadequate custodial services, need more structural repairs, and rely on temporary structures. A secondary school with **1000 students can expect 10-13 more students drop outs** per year if the facility has structural problems.⁷
- Parents saw comfort as the most important feature of an environmentally friendly classroom and felt items such as comfortable reading furniture, plants, use of colors on walls, and access to music affected students behavior. Within the same study, 775 students were surveyed. These students also ranked comfort as most necessary for an **environmentally friendly classroom**.⁸
- In study where aesthetic qualities such as plants, fish, and a comfortable reading loft were introduced into a **first grade learning environment**, six year olds shared their perceptions:
 - “I feel relaxed. When I’m relaxed I’m more ready to learn.”
 - “The kids make my head hurt, they’re too noisy. The fish be quiet, so it helps me not have a headache.”
 - “The plants help me be quiet. I want to move around more without them.”
 - “Up here [in the loft] makes me learn because I read and it’s comfortable reading here.”
 - “It all makes me feel more proud. When you’re proud, you can read, read, read!”⁹

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