



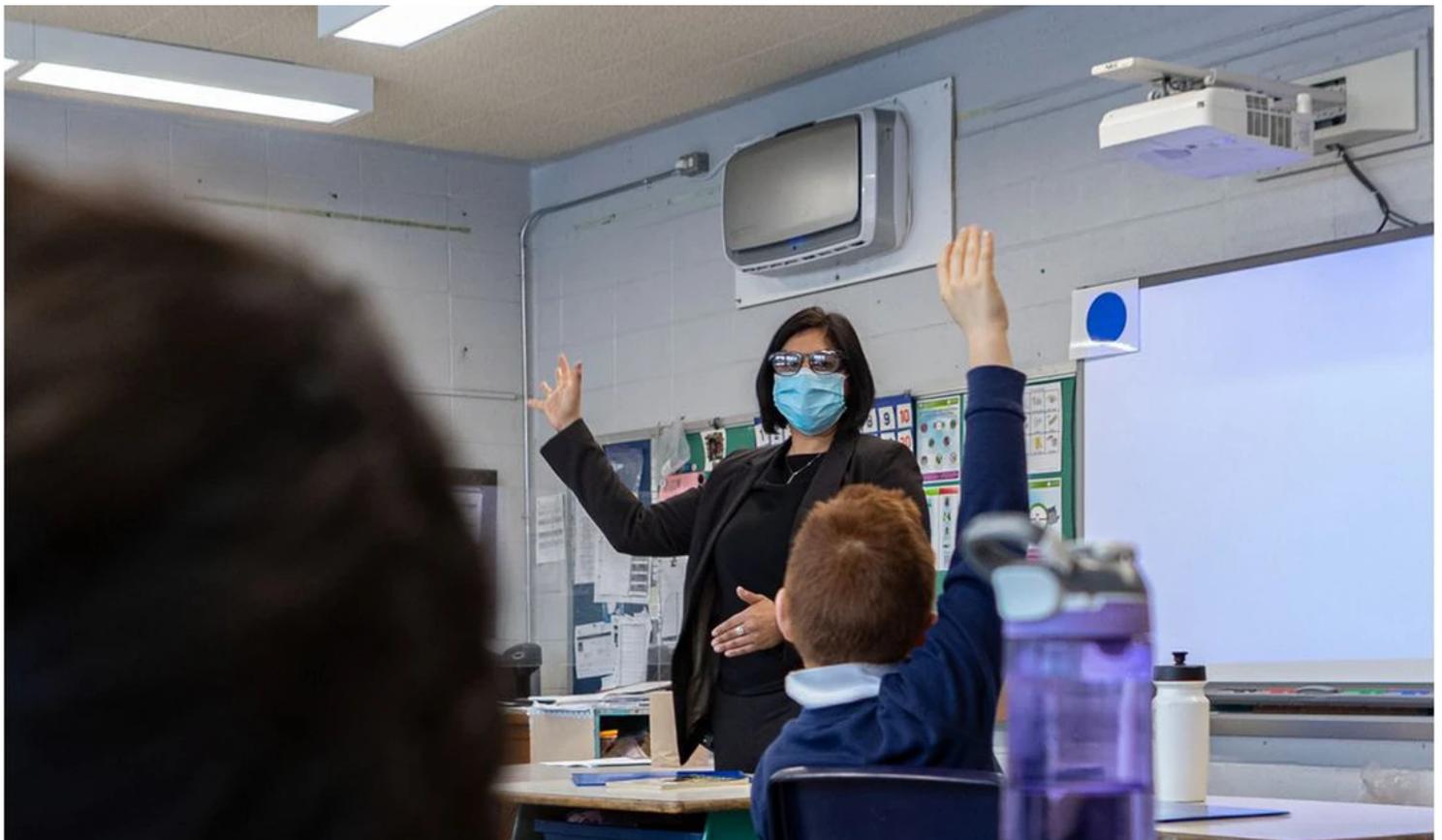
Local News

Analysis: What a California gas leak can teach us about air purifiers in schools

There is a growing body of research drawing a direct link between the physical conditions of school buildings and students' performance.

Aaron Derfel • Montreal Gazette

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The EMSB showed off their newly installed air purifiers at Pierre Elliott Trudeau elementary school in Montreal on Monday January 11, 2021. The HEPA filter hangs from the wall in the background while principal Tanya Alvarez takes over a class at the elementary school. PHOTO BY DAVE SIDAWAY /Montreal Gazette files

In 2015, the largest natural gas leak in the history of the United States forced a group of California schools to install air filters in classrooms within an eight-kilometre radius of the source of the contamination.

A few years after the leak was plugged, a researcher at New York University reviewed the pupils' math and English test scores and came to the conclusion that the air filters were not only cost-effective but led to "substantial improvements in student achievement."



The study — first reported in Vox last year — adds to the growing body of research drawing a direct link between the physical conditions of school buildings and students' performance.

"Good physical conditions can reduce absenteeism, improve test scores and improve teacher retention rates," states the U.S. Environmental Protection Agency on its website. "On the other hand, poor (indoor air quality) causes illness and increases school absenteeism."

Here in Quebec, Education Minister Jean-François Roberge announced last September an investment of

\$20 million for the maintenance of existing school ventilation systems. That worked out to an average of nearly \$6,700 more per school for the upkeep of ventilation systems.

But Roberge has so far resisted making more substantial investments to improve the ventilation in many of Quebec's older schools. What's more, Roberge has prohibited French-language school service centres from purchasing air purifiers during the pandemic.

And last week, the education minister was accused of lying to the public by Liberal leader Dominique Anglade about air-quality testing protocols in Quebec's schools following a Radio-Canada report.

The California gas leak was known as a natural experiment, allowing the U.S. researcher, Michael Gilraine, to evaluate the effectiveness of air filters on student performance. In a sense, Quebec is in the midst of a natural experiment, too, since English-language school boards have installed air purifiers in their classrooms at their expense.

Joe Ortona, chair of the English Montreal School Board, said teachers and parents were relieved that the EMSB installed air purifiers in 30 school buildings by the end of January, one month ahead of schedule.

"Teachers were reassured by that," Ortona recounted. "They felt safer in the classrooms. The parents felt that their children were safer as well. There was an overwhelming sense that this was necessary, and of course there have been many studies on the benefits of having air purifiers."

The EMSB has carried out some preliminary research on the effectiveness of the air purifiers, but the results have not yet been made public.

To date, three of the 30 EMSB schools with air purifiers — Elizabeth Ballantyne, Lauren Hill Academy and Merton — have reported suspected COVID-19 cases of the more contagious variants, according to covidecolesquebec.org, the award-winning website run by Nuns' Island parent Olivier Drouin that tracks the pandemic in the educational sector.

The Lester B. Pearson School Board installed air purifiers in 19 schools, and of that number, Clearpoint Elementary School shuttered classes last week after the discovery of variant cases. Covidecolesquebec has so far listed a total of 201 schools and daycares with variant cases.

An interesting side note to the California story is that air testing did not detect the presence of natural gas in the schools before the air filters were installed, suggesting that "the effectiveness of air filters (on student performance) came from removing common air pollutants." The lesson for Quebec is that installing air purifiers in schools without adequate ventilation would lead to better learning overall — regardless of the pandemic.

For Ortona, the Education Ministry's reluctance to fund air purifiers boils down to money.

"Definitely, if they had to install air purifiers in every single school across the province where there wasn't mechanical ventilation, we'd be talking about tens of millions of dollars," he said. "And I guess they didn't decide it was a priority for them."

In the meantime, at least four more Quebec schools announced on Monday that they had variant cases

among students.

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