

Only One in Five UK Schools Adopts Smart Ventilation Despite Impact on Learning

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A major new report has revealed a significant gap in the air quality provisions of UK schools, with nearly 80 per cent of educational buildings still relying on outdated ventilation methods. The study, titled “Smart Ventilation in Schools”, found that only 21 per cent of schools have installed smart ventilation systems, despite a clear link between indoor air quality and pupil performance.

The report, published by indoor ventilation experts [Airflow](#), is based on a survey of over 500 schools conducted via Freedom of Information requests. The findings suggest that many classrooms are operating in conditions that could actively hinder the cognitive abilities of both students and teachers.

Monitoring Gaps and Health Impacts

One of the most concerning findings in the report is that 29 per cent of schools currently lack any form of carbon dioxide (CO2) monitoring. In a densely occupied environment like a classroom, CO2 levels can rise rapidly throughout the day if fresh air is not adequately circulated.

High concentrations of CO2 are often invisible but can lead to a range of “silent” symptoms, including tiredness, headaches, and a lack of concentration. Research cited in the report indicates that poor air quality can result in a measurable drop in cognitive performance, affecting memory and decision-making during the school day.

The Regional and Institutional Divide

The data highlights a notable regional disparity in the uptake of modern technology. Schools in the North of England are currently leading the way in air quality innovation. The report found that 44 per cent of all

smart ventilation systems in UK schools are located in northern regions – split equally between the North West and Yorkshire and the Humber.

In contrast, London accounts for 33 per cent of adoption, while the East Midlands and South East represent just 11 per cent each.

Institutional structure also appears to play a role. Academies currently represent the largest share of schools with smart ventilation at 44 per cent, followed by local authority maintained schools at 33 per cent and multi-academy trusts at 22 per cent.

Barriers to Implementation

While the benefits of fresh air are well-documented, many schools face structural barriers. Older buildings often feature windows that are difficult to reach or offer limited opening capacity, making natural ventilation a challenge during the winter months when heat retention is also a priority.

The report highlights a common misunderstanding amongst decision-makers regarding the difference between “cooling” (simply moving air with fans) and “ventilation” (replacing stale air with fresh, filtered air).

Recommendations for the Future

To address these shortcomings, the report offers several key recommendations for school leaders and facilities managers:

- Standardise CO2 monitoring in every classroom to provide real-time data on air quality.
- Prioritise smart ventilation in both new builds and refurbishment projects to ensure long-term sustainability.
- Integrate ventilation requirements into the earliest design stages of school construction.
- Educate facilities teams on the benefits of heat-recovery systems, which can provide fresh air without increasing energy costs or creating draughts.

A spokesperson for the study noted that air quality should no longer be viewed as a secondary facilities issue. Instead, it must be treated as a fundamental priority for public health and educational outcomes, ensuring that every child has the opportunity to learn in a healthy, productive environment.