Use of visual CO2 feedback as a retrofit solution for improving classroom air quality - DTU Orbit (18/06/2017)

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Carbon dioxide (CO₂) sensors that provide a visual indication were installed in classrooms during normal school operation. During 2-week periods, teachers and students were instructed to open the windows in response to the visual CO₂ feedback in 1 week and open them as they would normally do, without visual feedback, in the other week. In the heating season, two pairs of classrooms were monitored, one pair naturally and the other pair mechanically ventilated. In the cooling season, two pairs of naturally ventilated classrooms were monitored, one pair with split cooling in operation and the other pair with no cooling. Classrooms were matched by grade. Providing visual CO₂ feedback reduced CO₂ levels, as more windows were opened in this condition. This increased energy use for heating and reduced the cooling requirement in summertime. Split cooling reduced the frequency of window opening only when no visual CO₂ feedback was present.

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